

THE MEDICAL NEWS.

A WEEKLY JOURNAL OF MEDICAL SCIENCE.

VOL. LXIX.

NEW YORK, SATURDAY, OCTOBER 3, 1896.

No. 14.

ORIGINAL ARTICLES.

REPORT OF THIRTEEN CASES OF MULTIPLE NEURITIS OCCURRING AMONG INSANE PATIENTS.¹

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THE inflammatory-degenerative changes, which, occurring in the peripheral nerves, are generally described under the name of "neuritis," may be especially active in the nerve-sheaths and connective-tissue framework—"interstitial neuritis,"—or have their chief location in the nerve-fibers—"parenchymatous neuritis"—or, as is most often the case, may involve both the neural and connective-tissue elements—"diffuse neuritis." The causes of neuritis are many and varied, and, used as a basis of classification, give rise to a number of more or less easily recognizable clinical varieties of the disease, the most important being:

(1) The neuritis occurring as a result of direct injury to the nerve-trunk—wounds, blows, pressure, as from sleeping on the arm, from dislocation of bones, from tumors. (2) That form resulting from exposure to cold. When the trunk of the seventh cranial nerve is involved, as is often the case, we have here a familiar form of facial paralysis. (3) The forms resulting from direct extension to adjacent nerves of the infection of bacterial diseases, as pneumonia, diphtheria, tuberculosis. (4) Those forms due to the presence in the blood of the poisons of these infectious diseases, especially syphilis, diphtheria, typhoid fever, malaria, variola, and tuberculosis. (5) The varieties resulting from introduction into the blood of toxic agents from without, as alcohol, arsenic, lead, opium. (6) The endemic or epidemic forms frequent in Asia and the islands of the Pacific, as the "kakke" of the Japanese and the "beriberi" of the Malay peninsula. (7) Certain forms affecting especially the cutaneous nerves and accompanied by trophic disorders of the skin in area supplied by the diseased nerve, of which herpes zoster is a familiar example.

Whatever the cause of the neuritis, or its pathological variety, if it involves a single nerve or a

small group of adjacent nerve-trunks, it is called "simple neuritis"; if a number of nerves in different portions of the body are simultaneously affected, "multiple neuritis." The varieties referred to in 1, 2, 3, and 7 above are usually "simple"; those in 4, 5, and 6, are apt to be "multiple." To these rules, however, there are exceptions. Thus, the writer has seen one case of typical peripheral neuritis (or pseudo-tabes) due to pressure upon the lumbar and sacral nerves of a large aneurism of the abdominal aorta; on the other hand, general toxemia may cause localized effects, as has been observed in one case here, where, in consequence of the therapeutic employment of arsenic, a herpes zoster occurred. A simple neuritis is also apt to be interstitial; a multiple neuritis, parenchymatous.

Since some confusion exists in the minds of many as to the relation borne by the different forms of neuritis to one another, and as to the proper naming of the several forms, it may be well to state that "multiple neuritis," "peripheral neuritis," and "polyneuritis" are synonymous terms, and that "alcoholic neuritis," "malarial neuritis," "syphilitic neuritis," "pseudo-tabes," etc., are all forms of multiple neuritis.

At the Insane Hospital, during a period of ten years, ending February, 1895, there occurred not more than a half-dozen cases of multiple neuritis, and all of these, with two exceptions, were of the alcoholic or syphilitic variety, the exceptions being the polyneuritis in the lower extremities, due to compression of aortic aneurism, to which reference was made above, and a case occurring in a negro man, who, while much excited, stamped his bare feet upon the floor until both were much inflamed, a neuritis following as a probable result of the injury.

In February, 1895, a case of multiple neuritis developed in a white female patient without assignable cause, and in the past autumn and winter—from November, 1895, to February, 1896, twelve other cases of multiple neuritis occurred. These cases were distributed irregularly through the several wards and departments of the institution, four of them occurring in white men, eight of them in white women, one in a colored woman, the population of the Hospital numbering about twelve hundred.

¹ Read (by title) at the meeting of the Medical Association of Alabama, at Montgomery, April 21 to 24, 1896.

A brief memorandum of the thirteen cases is appended for reference:

I.—A white woman, aged thirty-two, imbecile, healthy, well-nourished. Without discoverable cause, a neuritis developed in nerves of lower extremities, extending to middle of thigh, the symptoms being pain, sensory perversions, muscular weakness and incoördination, becoming in ten days a complete motor paralysis of affected part, with inability to walk or stand and characteristic "foot-drop," trophic disturbances—some edema and a scattered herpetic eruption on legs—absence of patella reflex. There was in the beginning slight rise of temperature, restlessness, furred tongue, offensive breath, and some gastro-intestinal disturbance. After a month or two, muscular atrophy became marked, and in course of time the calves of the legs diminished to about half their former size. Electrical reactions at this time: Markedly diminished excitability to galvanic as well as to faradic current, without a typical reaction of degeneration. After remaining at a standstill for four months, patient began improving, and now (six months after attack developed) has partially regained power over muscles in the legs, although still unable to walk or to stand. She is slowly improving, and will probably recover entirely.

II.—White woman, aged forty-six, demented many years, well-nourished and in good bodily health, developed what was at first regarded as a malarial attack—chill followed by rise of temperature. A day or two later began complaining of pains in legs, with weakness, and became unable to walk. She showed the usual sensory disorders, absence of patella reflexes, muscular paresis, incoördination, etc., followed after a few weeks by atrophy of muscles of legs. She remained helplessly in bed for two months, then slowly regained use of the limbs, and now (five months after onset of attack) is practically well, although the legs are still smaller than formerly, and she is somewhat unsteady in her gait. Reflexes have not returned.

III.—White woman, aged forty-three, terminal dementia, physical health good. Had a "bilious attack" (or auto-infection fever) lasting a week, with nausea, anorexia, furred tongue, headache, offensive breath. She recovered entirely from this and remained out of bed a week; then began complaining of pains in her legs, of weakness, and of inability to walk. Soon grew unable to stand or to use limbs at all; feet and legs became edematous and intensely painful and hyperesthetic; patella reflex vanished; no fever nor constitutional disturbance. Some muscular atrophy supervened, and a typical reaction of degeneration could be obtained in affected muscles within a month from the time the disease appeared. After two months she began improving, and now (four months from onset of attack) is able to walk and suffers no pain. Still has some muscular incoördination and reflexes have not returned.

IV.—White man, aged thirty-five; epileptic since infancy, and mental faculties disordered for many years; anemic, emaciated, and nephritic. He took to bed with gastro-intestinal symptoms and a slight rise of temperature, followed by pain, sensory perversions and muscular weakness in legs, with loss of patella reflex. He was never entirely paralyzed, muscular atrophy was not marked, and after two months he was able to walk again. Reflexes are still absent after five months.

V.—White man, aged thirty-three; epileptic since childhood, imbecile and demented, but healthy and well-nourished. Without assignable cause, and without any pronounced constitutional disorder, legs became weak and unsteady, painful, edematous, and patella reflexes disappeared. He was unable to walk for several weeks, then slowly improved, and after two months was able to get about as usual. Muscular atrophy slight.

VI.—White woman, aged twenty-six; hysterical mania, with dementia. Health good, body well-nourished. Beginning with a mild auto-infection there was rise of temperature to 101° F. on second day, she developed pain and tingling sensations in legs, with muscular weakness and absence of reflexes. She remained in bed one week only, then became able to walk again, improved steadily, and in two months had practically recovered.

VII.—White man, aged thirty-eight. Chronic melancholia with dementia; anemic, nephritic, and poorly nourished. Neuritis developed in lower extremities without visible cause, the symptoms being pain, sensory disorders, weakness, absence of reflexes, etc., as in the other cases, together with some gastro-intestinal disorder. At this time (three months after onset) patient is partially recovered, but is in bed a part of the time and legs are weak and smaller than before.

VIII.—White woman, aged forty-five. Chronic mania engrafted upon a paranoiac disposition. Previous health good. After three or four days of malaise, rise of temperature to 100° F., gastro-intestinal disorder, etc., local symptoms of neuritis in nerves of legs and lower half of thighs appeared, with burning pain, sensation as of "ants crawling on legs," "as if legs were asleep," edema, tenderness, muscular weakness, etc. She was never entirely paralyzed, pain grew less after a few days, and she retained power of locomotion throughout, although showing a markedly ataxic gait. Patella reflex abolished. Later, distinct muscular atrophy and a partial reaction of degeneration were noted. Gradual recovery of power in legs and restoration of reflexes in five months.

IX.—White woman, aged thirty-three. Epileptic since childhood and demented for ten years. Previous health good. Underwent the "Fleischig opium treatment" for epilepsy—opium in slowly increasing quantity given for a month, suddenly withdrawn, and potassium bromid in large doses substituted. Fits stopped, but about two weeks after withdrawal of the opium, patient having for some days shown gastro-intestinal and

auto-infection symptoms, a neuritis developed in lower limbs, all symptoms more marked on one side than on the other. The pain was a prominent feature for several weeks, and, later, muscular atrophy became pronounced. After a month symptoms of neuritis developed in both forearms, and after this both foot- and wrist-drop were present. Reflexes abolished. Patient grew steadily weaker, emaciated, became stupid, lay in a semi-comatose state for days, had persistent constipation, furred tongue, sordes on lips and teeth, offensive breath, anorexia, no rise of temperature, but toward close (six weeks after onset) temperature became subnormal; no difficulties of respiration nor cardiac irregularities noted. Died seven weeks after beginning of the attack.

X.—Colored woman, aged thirty-six, imbecile; previous health good. Had an attack of "continued fever" (which was probably tubercular) lasting five weeks. Recovered and was up and able to move about for a week; then developed a violent neuralgic (?) pain in chest, and in a day or two exhibited typical symptoms of neuritis in lower extremities, and a few days later in nerves of arms and body (intercostals) also. Temperature became subnormal. She grew weaker, experienced great difficulty in respiration, and died of asphyxia, without cardiac irregularities, three weeks after disease first appeared. Autopsy showed general miliary tuberculosis, involving pia mater, as well as all internal organs.

XI.—White man, aged thirty-four. Epileptic convulsions for five years past; mental weakness noticed during four years. Health good; muscular and well-nourished. With fever and the frequently noted gastro-intestinal disturbance, the pains, sensory abnormalities, and muscular paresis characteristic of neuritis developed in the arms first, slowly thereafter in the legs, rendering patient nearly helpless. Wrist- and foot-drop marked. The pain was severe from "top of head to sole of foot," as he said; hyperesthesia and absence of reflexes also noted; some edema; later, some muscular atrophy. After four weeks he began suffering from dyspnea and cardiac irregularities, temperature became subnormal, and he died two months after the onset of the disease, of cardiac failure and asphyxia (involvement of pneumogastric, probably).

XII.—White woman, aged forty, utterly demented for many years. Previous health good. The nurse noticed that she seemed indisposed to move from place to place, and that when necessary to move she would get down on the floor and crawl like an infant. Examination showed absence of patella reflexes, inability to stand or walk steadily, sensory perversions, edema, incoördination of movement. Patient was too demented to complain of pain if she experienced any. She showed no constitutional disorder, and refused to remain in bed. She regained the use of her legs after two months. Reflexes were absent after

five months, and some atrophy is still apparent, although she walks fairly well.

XIII.—White woman, aged fifty-six. Chronic mania, with great excitement and turbulence. Nephritic, emaciated, and in feeble health, with frequent diarrhea, progressive emaciation, and exhaustion from excitement. After being excited for two weeks she became helpless, and upon examination the usual evidences of neuritis were discovered in the lower extremities—muscular weakness, absence of reflexes, pain and tenderness, inability to stand. Trophic disorders were more prominent than in the other cases—edema and a herpetic eruption, and later a crop of small boils. The neuritis was confined to the legs. Patient died of exhaustion and nephritis about two weeks after disease developed.

It will be noted that the neuritis affected the lower extremities in every one of the thirteen cases, and the lower extremities alone in ten of the cases. The other three cases, in which the nerves of the arms and body became involved, all proved fatal although only one of these fatal results could be attributed directly to the neuritis (Case XI). One of the other cases died of miliary tuberculosis, the third of auto-infection, although death in each case was doubtless hastened by the neuritis. In one case the neuritis developed in course of a miliary tuberculosis, in one it followed a "bilious attack," in one the "Flechsig opium treatment" for epilepsy, in one a doubtful malarial infection; in none of the other cases could a reasonable guess at a cause be made.

The patients were young or middle-aged, and had been insane and in the institution some time; four were epileptic; all were demented more or less; none had used alcohol, and in only one case was a (doubtful) history of syphilis obtained. In most of the cases there was some evidence of an acute general toxemia, usually noted a day or two before the local symptoms attracted attention. In at least three cases, however, symptoms of general disease were lacking. No marked effect upon mental state nor upon the course of the insanity was noted in any instance. An examination of the urine of about three-fourths of the cases was made after the acute stage was passed, without discovering any indication of increased renal irritation, the urinalyses, as a whole, giving the same result as had been obtained at examinations made before the neuritis developed.

Why, after so many years of immunity, we should have a dozen cases of peripheral neuritis within a few months, is not clear, unless we assume the existence of some endemic cause, absent from our locality up to last year, such as is supposed to be active in beriberi—some germ or other

source of infection. Excess of starchy food has been assigned as a cause of endemic neuritis, but here the food of the patients does not show an excess of carbohydrates, and the quality and kind of food has been practically the same for years. Infection also is not clear. While four of the cases occurred in one ward, they all developed about the same time, and no other cases appeared; the remaining nine cases were widely scattered. The summer and autumn of 1895 was, it is known, a sickly season, malarial diseases, among others, abounding. While our neuritis cases, with one exception, obviously did not follow malarial infection, the causes favoring the growth of the malarial germ in the South may have also been favorable to the development of the etiological basis of endemic multiple neuritis. The blood of several of the neuritis patients was examined for the malarial plasmodium, without success. Although cases of multiple neuritis among the general population of the State have not come to my notice, I am informed by Dr. P. T. Vaughan, assistant physician at the Arkansas State Asylum for the insane, at Little Rock, that a number of cases of multiple neuritis occurred among the insane patients at Little Rock about the same time we were experiencing the epidemic at Tuscaloosa, indicating that the cause, whatever it might be, was widely diffused, rather than local or peculiar to the Alabama State Hospital. Several of our cases showed the auto-infection symptoms—dryness of tongue, offensive breath, emaciation, etc., seen in the dry or atrophic form of kakke or beriberi.

A fairly representative composite clinical picture of the disease, drawn from the cases we have seen, is the following:

After a period of malaise, lasting from a few hours to several days, with the discomfort common in the prodromal stages of acute disease, sometimes with a distinct chill, usually with a rise of temperature, together with anorexia, dryness of mouth and throat, furred tongue, offensive breath and constipation, the patient begins complaining of pain in the affected part, the legs most often. The pain is often quite severe, is darting and shooting, or burning, boring, aching, stinging, or "like ants biting," as one patient expressed it. Muscular weakness and incoördination is then noticed, and other sensory disorders appear, as diffuse or irregularly distributed areas of hyperesthesia or (rarer) anesthesia; tenderness on pressure is common, sensations as of "bugs crawling on the legs," "as if the limbs were asleep," are also mentioned. The tendon or deep reflexes are also abolished (noted in all of our

cases). The muscular weakness increases in severity, the gait becomes ataxic, patient is unable to get up and down steps, unable to stand steady with eyes closed; the weakness may become only a paresis, but in many cases there is almost complete paralysis at the height of the attack, with the characteristic wrist-drop or foot-drop. The sensory disturbances subside after a longer or shorter time, the motor weakness is more persistent. Trophic derangements, appearing at a later stage than do the sensory and motor disturbances, are also frequent, as edema, eruptions, sores, discoloration, etc., of the skin, or, more rarely, a herpetic eruption, or even a typical herpes zoster. When the motor paralysis becomes well-marked, there is always atrophy of the muscles supplied by the affected nerves, this becoming, in some instances, very marked. Contractures may result. There are then also changes in electrical reaction, either a diminution in galvanic, as well as faradic excitability, or a partial or complete reaction of degeneration.

The disease progresses in intensity for a period ranging from a few days to some weeks, then remains stationary for a shorter or longer time, then slowly disappears, pain first, motor weakness next, reflexes last returning. There are all grades of severity and duration, from a mild paresis, disappearing in a few weeks (Case VI) to paralysis of some months' duration (Case I), or the disease may cause death, as in Case XI. Usually the peripheral extremities only of the nerves are affected, the disease extending to the middle of the arm or to the middle of the thigh, as a rule. In the severer cases, and possibly in a few of the milder grade, the inflammation extends quite to the cord. While the great majority of cases recover, the disease often proves a serious one, as is shown by our three fatal cases among thirteen. Death, when directly owing to the neuritis, as in Case XI, is generally due to participation of the pneumogastric and other respiratory nerves in the disease, death occurring from asphyxia or from failure of the heart.

The diagnosis of peripheral neuritis, save in the cases pursuing an atypical or unusual course, is not a matter of difficulty, the rapidly developing motor weakness, incoördination, loss of tendon-reflexes, together with the pain, perversions of sensation, and trophic phenomena offering a characteristic clinical picture. Very mild cases might be overlooked, the slight pain and muscular weakness not attracting sufficient attention to suggest an examination of the affected limbs, or being attributed to "neuralgia" or "muscular rheuma-

tism," etc. In the severer cases also, the local manifestations may be overshadowed by the marked constitutional disturbance—fever, general prostration and weakness, auto-infection symptoms, etc., but in this, as in the first instance, if an examination of the nerve-reactions is made, there will be little opportunity for error.

The symptoms of poliomyelitis anterior, or infantile spinal paralysis, resemble somewhat those of multiple neuritis. Poliomyelitis, however, is preëminently a disease of infancy and early childhood, and is usually a purely motor paralysis, lacking the sensory disorders of neuritis.

Acute ascending or Landry's paralysis resembles a polyneuritis in many particulars; in fact, many of the symptoms of Landry's paralysis are due to involvement of the peripheral nerves, and some of the reported cases of Landry's paralysis are most probably cases of multiple neuritis; in fact, some (Ross) have insisted upon the identity of the two diseases. The chief differences noted in typical cases are: Landry's paralysis is usually a motor one, the pain, trophic disorders, etc., of neuritis being absent; it advances more rapidly than neuritis, the muscles do not atrophy, and the reaction of degeneration is not present.

When a polyneuritis involves the lower limbs alone, and is of slow onset and progress, as is often seen in cases due to alcohol or syphilis, the disease bears a close resemblance to *tabes dorsalis* or locomotor ataxia, and well deserves the name of pseudo-*tabes*, which has been applied to it. The symptoms common to the two diseases are: The pains in the legs, the sensory perversions, muscular incoördination, ataxic gait, swaying with closed eyes, absence of tendon-reflexes. The differences are: The girdle-pain of *tabes* is not present in neuritis; the lancinating, stabbing pains of *tabes* are not common in neuritis; the pain in the last-named being continuous, burning, stinging; the pupillary-light reflex, absent in *tabes*, is not changed in neuritis. There is loss of coördinating power in both diseases, but in *tabes* there is, at least in early stages, no muscular weakness, while this weakness is marked in neuritis; the "crises" of *tabes* are absent in neuritis. Thus, in typical cases the differences are sufficiently prominent. In some atypic instances, however, it becomes a matter of no small difficulty to decide between a neuritic pseudo-*tabes* and a true *tabes*—a fact not surprising when the pathology of the two is borne in mind. The nerves are usually affected in *tabes*, and many of the symptoms of *tabes* are obviously those of the accompanying neuritis; in fact, it has been claimed

that locomotor ataxia is a primary affection of the peripheral sensory neuron.

The treatment of multiple neuritis is, first and most important, removal of the cause, if such is discoverable and removable—withdrawal of the alcohol, opium, arsenic, lead, etc., treatment of the syphilitic, malarial, or other infection.

For the neuritis itself, there is no specific. Of drugs, quinin and the salicylates are most often recommended. For the relief of the pain, the most distressing single symptom, coal-tar derivatives or, preferably, opium, may be given. The steady galvanic current is sometimes of service; hot applications give much relief in some cases—hot water, hot flannels, hot poultices. After the acute stage is passed, the aim is to minimize the muscular atrophy and prevent contractures, and to restore muscular power as soon as possible. This is best done by the systematic use of electricity (faradic current) and massage. In the large majority of cases recovery is complete, although from several months to a year, or even longer, may be needed.

STERILITY IN WOMEN.¹

By G. BETTON MASSEY, M.D.,
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ASIDE from congenital deficiencies and anomalies of development of the essential organs of generation, we have been taught, since the days of Marion Sims, that the chief reason for sterility attributable to the woman is narrowness or flexion of the uterine canal. When it is remembered that the narrowest pin-hole os, on careful manipulation, will admit a sound, which is many times larger than the self-propelling spermatozoid, it would seem that this reasoning is inconclusive. It is doubtless to the operative furor that the popularity of the stenosis and atresia theory of sterility is due, for since the days of Sims and J. Y. Simpson, practically no form of treatment has been employed except some method of enlargement of the canal. This was at first accomplished by slitting the cervix. Owing to the combined ineffectiveness, morbidity, and mortality, of this procedure, it has, of late, been superseded by so-called dilatation, which is accomplished only by tearing apart the muscular and fibrous tissues that encircle the canal. Only exceptionally has this accomplished a cure of the sterility, while it is at times followed by serious consequences in the shape of parametritis and diseased appendages. One case of ectopic pregnancy, and a number of instances of uterine and

¹ Read before the Philadelphia Obstetrical Society, September 3, 1896.

ovarian tenderness, have been observed by me after dilatation.

Far more important causes of sterility may be found in imperfect participation of the uterus in the sexual orgasm, catarrhal changes in the mucus of the uterus and tubes, and inactive ovaries—the last two being the most important. A lessened aspiratory action of the uterus, while rendering conception less certain, cannot be a serious impediment on account of the automobile powers of the spermatozooids. This defect may, however, be materially lessened by the general intrapelvic action of electricity, promoting the nerve-tone of the organs, particularly of the uterus and ovaries, increasing muscular activity, and quickening circulation. The method best adapted to accomplish this purpose is the vagino-abdominal galvanic application with covered vaginal electrode, which should be negative, a current of from thirty to forty milliamperes being turned on and off gradually and repeatedly by the swelling method. This may be supplemented with labile lumbar applications of the galvanic current to the sexual center of the cord, the patient lying upon the face with a large pad under the abdomen.

Of the toxic effect of altered uterine secretions on the fertilizing cells of the semen there can be no question, and it is in these cases that galvanic electricity, applied within the cavity of the uterus, is of the greatest service by its alterative action on the secreting surface. Unless the intrauterine treatment is indicated also by marked changes in the mucous membrane, the covered elastic electrode is best as promoting favorable changes in the mucous membrane with least traumatism. It has been my habit to employ the positive pole usually, though the choice of pole for this purpose is open to further investigation to determine whether the normal alkalinity of the uterine mucus should be increased by the negative pole or diminished by the positive pole. Possibly the results depend rather on the simple excitation of a more normal secretion.

Deficient activity of the ovaries can only be inferred as a cause of sterility, in the absence of any demonstrable lesion or more patent defect of functionation on the part of the woman, and, of course, after the question of the possible sterility of the husband has been eliminated. It may or may not be associated with lack of sexual appetite and responsiveness, for many women conceive readily, in whom the orgasm is deficient or absent. Any method of treatment that promotes increased activity of the pelvic circulation, such as negative vagino-abdominal applications

of either current, may increase ovulation, while the musculo-tonic effect of the galvanic current, by the swelling method, may do much to lessen a practical maternal impotence from weakened musculature, which is only less disastrous to the conjugal relation than similar conditions of the male.

But few instances of this affection have been placed under my care for the purpose of curing the sterility—but five in all—in four of which the treatment outlined was successful at some time during a year following the cessation of the treatment, two instances being almost immediate. In the one case that was a failure up to the date of her last report to me, the ovaries were both prolapsed and the tubes also probably involved in the remnants of an old pelvic inflammation. Her symptomatic condition was nevertheless improved.

The slight attention paid to this subject is doubtless due in part to a lack of information as to the value of this method in certain cases, and, in part, to a prevalent disinclination of American women for the burdens of maternity. That electricity may cure sterility, when the patient only seeks relief from the pain of chronic metritis, is abundantly shown by a tabulated report made by the writer to the American Electro-therapeutic Association in 1894,¹ where, of thirty-two cases of uterine disease that involved, in each instance, at least a temporary or acquired sterility, eight had become pregnant after the treatment. Apostoli, at the same meeting, reported pregnancy in eighty cases after intrauterine electric treatment, some after one application. Of the twenty-two cases reported *in extenso* in the paper,² five were nulliparæ.

An interesting case of this sort was sent to me in August, 1892, by Dr. Whitcomb of Greenwich, N. Y. She was a lady, twenty-nine years of age, who had been married five years without the least sign of pregnancy, but who came to me for a hemorrhagic menorrhagia, which she had suffered from both before and since marriage. The only perceptibly abnormal conditions were a slight leucorrhœa, and an enlarged corpus uteri, the cavity being three inches in depth. Under positive intrauterine applications she improved rapidly, the applications finally being made but once a month. About this time I was surprised by what appeared to be a very painful period, accompanied by clots, and counseled a waiting policy for some months to determine what her condition would be without treatment. At her next visit, some two and a half months later, she stated that the following period had been painless and normal, but that she had seen nothing since then. An

¹ "Trans. Amer. Electro-therapeutic Assoc.," 1894, p. 78.

² "Trans. Amer. Electro-ther. Assoc.," 1894, p. 371.

examination gave rise to a strong presumption of pregnancy, then existing, and convinced me that the painful period of some months back had been a miscarriage inadvertently brought on by the treatment preceding it. She was sent home this time without treatment, and in due time gave birth to an unexpected but much-desired daughter.

URETHRAL AND VESICAL ARTHRITIS.¹

By A. H. LEVINGS, M.D.,
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URETHRAL ARTHRITIS, more often, but incorrectly termed gonorrheal rheumatism, is of not infrequent occurrence, usually making its appearance during the decline of gonorrhea, or during the continuance of a gleet discharge. The inflammation may be confined to the synovial membrane, and be attended with pronounced effusion. It is more usual for a distinct arthritis to occur, synovial membrane, subsynovial connective tissue, capsule, and ligaments, being involved. Should suppuration within the joint occur, the cartilages and bones may be involved and destroyed. Inflammation of, and effusion into, the tendon-sheaths are also of frequent occurrence, and are of importance as diagnostic symptoms. Urethral arthritis occurs during the later stages of a gonorrhea, or during gleet, on account of the inflammatory destruction of the mucous membrane, or its epithelial lining, which produces the gonorrheal ulcers in the posterior urethra, and affords ready access for the germs or their ptomaines to the lymphatic or venous circulation.

Some bacteriologists claim that the gonococci are the direct cause of urethral arthritis; that these germs gain an entrance to the lymphatics or venous circulation through ulceration in the urethra, and are carried to the joint, where they set up their characteristic inflammation. Others hold that the process is one of mixed infection, the gonococci, by destroying the epithelial lining of the urethra, simply preparing the way for absorption of the pyogenic or pathogenic germs, which are known to inhabit the urethra under normal conditions, or which may be introduced mechanically. If the inflammation is confined to the synovial membrane, and the exudate is serous in character, statistics show that in thirty-five per cent. of the cases, recovery takes place with complete restoration of the functions of the joint. If the inflammation attacks all the structures of the joint, and the exudate is sero-fibrinous, sixty-five per cent. will be attended with restriction or complete loss of motion. If the exudate is purulent, more or less destruction of the joint is al-

most certain to follow, the condition probably necessitating resection.

In seven cases, which have recently come under my care, in two the hip was implicated, one the knee, one the knee and shoulder, one the metatarsal, one the metacarpal, and one the ankle-joint, and in 299 cases tabulated, the duration of the articular inflammation averaged sixty-eight days. Gonorrheal rheumatism is put down by Gresolle at 2½ per cent. of all cases of gonorrhea.

Urethral arthritis is a typical infective arthritis, and in its symptoms and course is to be differentiated, especially from acute rheumatism for which it is often mistaken. Its chief characteristics are that it attacks but one, or at most, but few joints, those of the knee, shoulder, ankle, or the metacarpal or metatarso-phalanges, being most frequently affected. It has a less abrupt onset than acute rheumatism, but far greater persistence. The pain attending it is often more severe than in the most aggravated case of rheumatism. The inflammation implicates most frequently all the structures of the joint, instead of being confined to the synovial membrane, as is the case in acute rheumatism. Inflammation of and effusion into the overlying tendon-sheaths are also prominent characteristics, and may continue for weeks, or months, or perhaps years, uninfluenced to any great extent by internal medication, and followed, in prolonged cases, by decided ankylosis, due to the organization of the fibrinous exudate binding the various structures of the joint together. Suppuration is uncommon, occurring only twice in ninety cases tabulated by Nolan. Osler relates a case where the patient was practically bedridden for ten years from gonorrheal rheumatism.

The following cases, which recently came under my observation, may be of interest:

CASE I.—S. J., aged twenty-nine, confessedly having had gonorrhea, followed by a gleet discharge and cystitis, was attacked, August 30th, with sickness at stomach and dizziness; the second day following, all of the metatarso-phalangeal joints of the left foot became involved. After three days the corresponding joints of the right foot were also attacked. I saw the patient for the first time September 16th. At this time he was suffering excruciating pain, being wholly unable to sleep, even from the effects of large doses of opium. He had been treated with the salicylates without effect. His temperature ranged from 101 to 103° F. The greatest pain was in the metatarso-phalangeal joint of the great toe of his left foot, and in the tendon-sheath of the second toe of the right foot. The whole metatarsal region of the right foot was much swollen from implication of the tendon-sheaths. After some

¹Read at the Fox River Valley Medical Society, June 21, 1896.

days of treatment, no improvement taking place, and fluctuation being pronounced, I cut down upon the tendon of the second toe and joint of great toe. A very considerable quantity of pus was discharged in each instance. Following this the right foot quickly recovered, but no improvement taking place in the left, the joint was resected, the bones being in an advanced state of caries. The patient made a quick recovery, and, excepting some disability, is at the present time quite well. The case is of interest on account of suppuration having taken place in the tendon-sheath of one foot, and in the joint of the other.

CASE II.—Mr. H., aged thirty-one, contracted a gonorrhea in August last. He consulted me in October on account of inflammation in his right ankle-joint, pain over both ossa calci, and in the muscles of his back. The pain in the heels was so severe, and the deep structures so sensitive, that he could only walk on the balls of his feet. The muscles of his back and neck were sensitive and in a state of tension. I then learned of his previous gonorrhea. The urethral discharge had, however, ceased, but there was increased frequency of urination which was slightly painful. Having the patient pass his urine into two glasses, the second glass was seen to contain the characteristic pus-threads and flocculi of a posterior urethritis. The passage of a sound showed the posterior urethra to be inflamed. The patient was given salol internally, and was treated locally by the passage of a sound every second day, followed by a deep urethral injection. I instituted this local treatment with the expectation of curing his post-urethral gonorrhea, and thus indirectly relieving his joint, periosteal, and muscular inflammations. But I was disappointed, for with each passage of the sound and the use of the injection, his condition was made worse. The pain in the heels, in the muscles, and the inflammation in the joint grew worse, until finally he was forced to take to his bed, whereas, when he came to me he was able to be out of the house a little with the aid of two canes. The local treatment was then discontinued, while internally the salol was continued with tonics. He was also directed to drink copiously of water. Under this treatment he has now practically recovered.

CASE III.—Mr. J., aged thirty-five, had had numerous attacks of gonorrhea, and was suffering during the winter of 1894-5 from stricture, with a gleet discharge. He had been under the care of various surgeons for the cure of his ailments without receiving any permanent benefit. One day his doctor either forced a large sound through the stricture or created a false passage. The pain caused thereby was excruciating, and, when he was driven home, he fell upon the floor in a faint, his clothes saturated with blood from the urethra.

The next day he developed a violent arthritis of the right knee. I saw the patient in consultation some ten days after the joint had become in-

flamed. He was then much emaciated, had a high fever, and was suffering intolerable pain in the knee. He had a urethral discharge, and the urine was loaded with pus. The condition of the joint was typical of gonorrheal arthritis, all the structures being acutely inflamed, including the incrusting cartilages, as shown by the starting pains and spasmodic muscular contractions, occurring at night or on the slightest motion. There was also considerable effusion within the synovial sac. This was aspirated, the joint enveloped in a thick layer of absorbent cotton, surrounded by a firm bandage and immobilized in a plaster cast. Extension was applied from below the knee. Internally salol, potash, and balsam, were given. No local treatment was attempted. In ten weeks the patient had so far recovered as to be down-town with the aid of a crutch.

The remedies which are so efficacious in acute rheumatism have little if any effect in urethral arthritis. To remove the cause, to cure the gonorrhea, thereby preventing further systemic infection, would seem to be the most rational method of treatment. The local treatment by sounds and injections is usually contraindicated, unless there be pronounced stricture, as their use causes abrasion and favors absorption. Something may, however, be accomplished with remedies which exert an antiseptic effect upon the urine, as salol, boracic and benzoic acids, and quinin, and with those which increase the quantity and lessen the activity of the urine, as well as with those which exert a favorable specific influence through the urine on the inflamed urethral mucous membrane.

In the primary local treatment of the arthritis, compression by bandage over a layer of absorbent cotton, with rest, secured by immobilization, and extension, if the disease is at the knee or hip and has attacked the incrusting cartilages, are the most important indications to be met. Should the effusion be excessive and serious, aspiration may be practised. If pus-formation has taken place, incision with drainage, or excision will be necessary. As there is great liability to partial or complete ankylosis, absolute immobilization should not be continued after the acute symptoms have subsided. For the purpose of hastening the absorption of the sero-fibrinous exudate and favoring the restoration of the joint functions, after the subsidence of the inflammation, passive motion, massage, and electricity, are useful. The repeated production of small blisters over the joint, or the frequent application of the Paquelin cautery, has given me excellent results.

Non-gonorrheal vesical arthritis, though not as

frequent an affection as gonorrheal urethral arthritis, occurs, nevertheless, sufficiently often to render its diagnosis and treatment important. It is met with most frequently in old men, who, either in consequence of an enlarged prostate, or atony of the muscular fibers of the bladder, have that train of symptoms which are the result of an incompetent bladder, residual urine, infection, decomposition, cystitis. The pyogenic microorganisms or their ptomains in the bladder gain an entrance to the venous or lymphatic circulation, find a lodgment in a joint or joints, and there set up inflammatory action. Clinical experience seems to teach that a chronic rheumatic arthritis acts as a predisposing cause to vesical arthritis by creating a *locus minoris resistentiae*. The following is the history of a case now under my care:

An old gentleman past seventy, with enlarged prostate and incompetent bladder, had been suffering, more or less for several years, with a gradually increasing cystitis. When I first saw him, more than two years ago, he had been confined to his bed for four weeks. This confinement was not wholly nor largely on account of his cystitis, which was nevertheless severe, but on account of inflammation of the joints of his legs, knees, ankles, and feet. Not more than one or two joints were usually acutely inflamed at any one time. When the patient came under my care his limbs were encased in flannels, and it was with the greatest difficulty that he could be moved in bed. Believing that I had before me an infective arthritis, the result of the suppurative inflammation in the bladder, I directed all my attention and all my treatment to the latter organ, and as the condition of the bladder improved, the inflammation of the joints subsided. At the end of the second week of treatment, the pain, swelling, and soreness, had almost entirely left his joints and he could move them quite freely. At this time there occurred a slight exacerbation of the cystitis, and immediately the left ankle became swollen, red, and painful, which subsided again as the bladder improved, and during the fifth week of treatment he was out of bed and walking fairly well, when there occurred a second exacerbation of the cystitis, caused by a too strong injection of nitrate of silver. Almost immediately the right knee became acutely inflamed, the inflammation subsiding with improvement of the cystitis. During the two years and more that this patient has been under my care, he has been confined to his bed five times for short periods on account of acute inflammation of some of his joints, the joint inflammation being always coincident with an increase of his cystitis from neglect of local treatment, and the instituting of local treatment has in each instance been followed by a rapid disappearance of the joint inflamma-

tion. I have seen many cases similar to this during the past two or three years, though this one is perhaps the most typical.

In the treatment of this class of cases it is of great importance to restore, as far as possible, the functional power of the bladder by the administration of strychnin and tonics, to lessen the decomposition of the urine by the use of salol and quinin, and to relieve the cystitis by washing out the bladder. Probably no medicinal substance is so often used for the latter purpose, and, in my experience, is of so little value as boracic acid. Combined with carbolic acid it is of unquestionable value. Borax is also a favorite remedy with some. In cases where the urine swarms with bacteria, very great benefit is derived from washing the bladder with the bichlorid of mercury solution 1-12,000, or 1-15,000, or permanganate of potassium grs. 5 to 15 to the quart of water, although the former is often followed by severe pain. An occasional instillation into the bladder of from one-half to one dram silver-nitrate solution, of the strength of from one to three per cent., is of value. In my own practice no one remedy has perhaps given me greater satisfaction than the non-alcoholic fl. ext. of golden-seal, one dram to the quart of water. It is my practice to wash the bladder with this solution for two or three days, always leaving a syringe-ful in the bladder after the washing; then for an equal number of days to wash with the carbolic and boracic acid solution, and about once a week to instil a dram of the solution of nitrate of silver into the bladder after thoroughly washing it out with boiled water, and occasionally, if the microscope shows the microorganisms to be in large numbers, washing the bladder with the bichlorid of mercury or permanganate of potassium solutions. I believe a large number of patients, if patiently and perseveringly treated in this manner, may be saved, at least for a considerable time, the serious operation of castration or drainage.

NOTE.—Since the writing of this article, two additional cases have come under my care, one of gonorrheal arthritis, where the left hip and right knee were inflamed, the other a case of vesical arthritis, occurred in an old gentleman, aged seventy-six, with enlarged prostate, cystitis, and residual urine loaded with pus. In this case three distinct attacks of arthritis have occurred during the past three months, each being coincident with an exacerbation of the cystitis. Evidence of the direct causal relation is constantly accumulating.

CRANIOTOMY ON THE DEAD CHILD.¹

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THIS subject is one of great importance, and it is one that is seldom, if at all, found in our literature. We read many articles in the journals on "Craniotomy on the Living Child," "Is it Justifiable?" etc., etc. It is the intention of this paper to leave this subject entirely alone.

Of all obstetric operations, the most common is the forceps. Not infrequently, the operator finds that in spite of very strenuous efforts, he can make no effect on the progress of the child. This is usually due to a mistake in the diagnosis of the position of the head, or to the failure to recognize the existence of a contracted pelvis. At any rate, the attempts at delivery are continued, another physician helps pull, and together they succeed in delivering a dead child, or one so crushed that it dies in a few hours. As for the mother—she has severe cervical, vaginal, and vulvar tears, has *post-partum* hemorrhage, sepsis in the puerperium, happily comes through with her life, but carries the effects of such brutality in the shape of severe cellu-litic thickenings in the parametria, adherent uterus, probably life-long invalidism. I have known a physician to pull four hours on the forceps, knowing all the time that the fetus was dead.

The second operation that is too often undertaken to get around the necessity of hurting the dead child, is version. In cases of contracted pelvis, where, in spite of strong pains, the head has not passed the inlet, if the child is dead, craniotomy is the proper operation. I exclude here cases of absolute contraction, referring to those where the conjugata vera is from 3 to 3½ inches. To do a version here is foolhardy. (1) The operation of version is one that, except in the most favorable cases, requires considerable skill in technic; (2) it has always the attendant danger of rupture of the uterus, especially in cases where the lower uterine segment has become thinned during the ineffectual attempts of the uterus to force the head past the obstruction.

The operation of craniotomy is simple, requires less skill than a version, has no attendant dangers, other than those which the operator can avoid, sepsis and injury to the soft parts.

Embryotomy and not version should be chosen in neglected transverse or shoulder presenta-

tion. In cases of transverse presentation where one is called early, the child being alive, version is the proper operation. Even when the child is dead, if the bag of waters has only recently broken, and the uterus presents none of the symptoms of threatened rupture, a version may be quite easy, and, in comparison with decapitation, may seem the better operation. Again, one might not have the necessary instruments at hand, but where the labor has been neglected, in cases of contracted pelvis, and where an attempted version meets with even moderate resistance, reject the operation and do an embryotomy.

Again, it may happen, that during an extraction by the breech, the head becomes arrested at the inlet. During the long ineffectual attempts at delivery, the child dies. The operation of election here is craniotomy. In the absence of a perforator, use a pair of scissors.

The following cases will serve to show that the conditions I have described do exist:

CASE I.—Primipara, aged twenty-two. Labor eighteen hours, face presentation, mento dextra anterior, head not fully engaged, cervix effaced, and os dilated for several hours. Child dead. Forceps, powerful traction, no progress. Counsel advised forceps, doctor in charge, craniotomy. Counsel with feet braced against the bed, two assistants holding the woman by the arms, after the hardest labor, delivered a large dead fetus. Smart hemorrhage, deep perineal tear; during the puerperium the entire vagina sloughed out. Slow recovery; place where vagina should be, filled with connective tissue, leaving an orifice so small that the finger cannot pass. Later plastic operation, in which flaps were made from the skin of the buttocks, the scar tissue dissected out and a vagina two inches long constructed. Result fair.

CASE II.—Multipara. Contracted pelvis, breech presentation. Midwife called assistance because the head would not come. One physician pulled on the body till he got tired. A second succeeded in tearing the body off the head, which was retained in the utero. Now there was nothing to catch hold of but the jaw. A third physician succeeded in ripping this out. Still the head would not come! The fourth physician finally, by pushing his fingers into the orbits, was able to deliver the rest of the head.¹ The poor woman died in three hours.

CASE III.—Primipara, normal pelvis, large child. Head movable above the inlet. Forceps, long and powerful efforts, but no progress. Child died during these tractions. An attempt at version succeeded only in bringing down a foot alongside the head. Operator, now exhausted, gave place to another who, with great force,

¹ Read before the Illinois State Medical Society, May, 1896.

¹ Cocq says forceps, in generally contracted pelvis, is equivalent to embryotomy.

completed the version. In the extraction which followed, the perineum was torn through the anus, a tear extending four inches up the recto-vaginal septum. Primary suture sloughed, now permanent incontinence of feces. Craniotomy was not done because it was thought too dangerous. And these operations were not dangerous!

CASE IV.—Reported in the New York Obstetrical Society last year. Occipito-posterior position, head still movable. Placenta prævia marginalis. Prolapse of the arm and the cord. Truly a complicated case, but the *child was dead*. The following operations were done to deliver the lifeless foreign body: (1) Forceps used to try to correct the bad position of the head. (2) Forceps as an instrument of extraction using all possible power, and kept up for a long time. (3) Incisions in the cervix. (4) Forceps again after this. Failure. (5) Version, during which the back turned to the mother's back, making the bringing down of the arms very hard. (6) Forceps on the aftercoming head! The woman died in forty hours.

It is encouraging to note that the paper was very sharply criticized, and the proper treatment advanced, at the time it was read. If the child had lived at the time of the first examination, the proper operation was version. This was indicated by all the conditions, placenta prævia, posterior occiput, prolapse of the hand and cord. But the child being dead, the cervix only large enough to admit the forceps, and in the presence of an indication for the termination of labor, there was only one operation to do—craniotomy. Can there be any doubt that, if this operation had been performed, the woman would have lived? It is easier and less harmful than any single one of the methods employed to deliver this case.

The late Dr. W. W. Jaggard said, "the necessary mortality of craniotomy is zero." Winckel says, "the percentage of maternal deaths in the hands of skilful operators is reckoned at 0 after perforation, and as at least 8.4 per cent. after the Cæsarean section. The former is entirely free from danger, and the latter can be designated as quite dangerous, etc."

In cases where labor has become so complicated that the operation is imperatively demanded, especially where violent attempts at delivery have been made, a certain number of deaths must occur, but these cannot be laid at the door of craniotomy. For this reason all statistics regarding the operation are valueless, unless the foregoing operations have been considered, *i.e.*, whether the craniotomy has been undertaken as a primary operation, or only as a last resource. In seventy-one cases by Leopold of Dresden, two

deaths occurred, and both from eclampsia, for which the operation was undertaken. This leaves the mortality of the operation itself at zero. Fehling in twenty-three cases, lost one woman from eclampsia. These statistics are taken from the present antiseptic and aseptic era, and from good operators, being the only reliable figures that could be found. Busey of Washington, in an eloquent plea for the abolishment of craniotomy on the living child, gives many different statistics. According to the totals, the mortality varies from seven to twelve per cent. This includes cases where Cæsarean section should have been done for the absolute indication, and all cases where ineffectual attempts at delivery had preceded the craniotomy—the last hope.

Why should there be any mortality from craniotomy if it is properly carried out? The operation can always be done slowly, there is plenty of time to prepare everything according to the most stringent rules of asepsis. The perforation of the head under the guidance of the fingers is done with absolutely no injury to the mother, and the subsequent application of the cranioclast is simpler and easier even than the forceps. Care is required in the extraction of the child to protect the soft parts from splinters of bone. If the cervix is not dilated, gentle traction, repeated often, dilates it evenly and safely. Absolute cleanliness protects the patient from infection.

In the last year alone, I have had occasion to do two craniotomies, both for contracted pelvis, and both in the hovels of poor people. Recovery in both cases was prompt. A perforator and a cranioclast are the instruments needed. The latter is simply a large and powerful bone-forceps. While the instruments are boiling, the field of operation is sterilized.

The cervix needs to be large enough to admit three fingers, but the larger it is the better, and in the absence of contraindication, one may wait for sufficient dilatation. The four fingers of one hand are then passed into the vagina and come to rest on the head. The perforator is passed under the cover of these fingers, and does not touch the maternal tissues at all. The head being steadied from the outside, with a gentle boring motion, the point goes easily through the head. The handles are next unlocked, and the blades opened to their full extent. The instrument is locked, turned one quarter of a circle, and reopened. The handles are again locked, and the perforator is carefully withdrawn.

Brain matter flows out, and if the pains be strong, they may force the head into the pelvis.

It is not advisable to leave the case to nature, rather extract. With the same precautions as in forceps, the blades of the cranioclast are passed, the solid one inside the opening which was made, the other one over the face. They are locked and screwed together. The head is extracted as if it were in the grasp of the forceps, using the same rules to pull with a pain and to pull in the axis of the pelvis. After the labor, a thorough vaginal douche or an intrauterine antiseptic douche is given.

In conclusion, I wish to give the following indications for craniotomy: (1) All cases where, the child being dead, an indication for the termination of labor arises. This operation should be done instead of the forceps, when the maternal soft parts are unprepared for rapid delivery. Such cases are eclampsia, placenta prævia, premature detachment of the normally implanted placenta, prolapse of the cord with danger to the mother from any cause—in short, don't apply the forceps on a dead child. The only exception I would make to this rule is the case of a multipara, with the head low down and the soft parts well prepared. (2) Cases of contracted pelvis when the conjugata vera is not smaller than $2\frac{1}{2}$ inches. To do a hard version or extraction, or a forceps, or a Cæsarean section, is not justifiable when the child is dead. (3) In neglected transverse presentation, embryotomy should be done. The thought of a version should not be entertained for a moment.

CLINICAL MEMORANDA.

A CASE OF IMPERFORATE ANUS.

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THE rare occurrence of congenital malformations of the rectum (1 in 22,218)¹ justifies me in reporting a case which has come under my treatment.

The baby, a boy, on the second day after birth, was noticed to be sick. He passed urine, but the bowels had not acted since birth; there was no discharge of meconium. He vomited the milk curdled, and once also vomited fecal matter. The abdomen was distended, painful on pressure; there was violent straining. The perineum was smooth, the raphe extending from scrotum to coccyx. Not even a dimple marked the anal site. The superficial veins presented the shape of *caput medusæ*—prominent and tortuous. On deep pressure over abdomen or the descending colon no bulging was noticed at the would-be anal orifice, and no tumor or fluctuation could be de-

tected. The genital organs were to all appearances perfectly developed, the penis being somewhat longer than normal, as can be seen on the accompanying figure. The case was diagnosticated as complete absence of the anus, the rectum being abnormal and ending at a greater or less distance from the normal outlet.

An attempt to reach the rectal pouch through the perineum was decided as a means of relief, and the consent of the parents readily obtained. The child was placed in the lithotomy position; no anesthetic was used. The incision was made in the median line over the raphe from the root of the scrotum clear to the tip of the coccyx. The tissues were divided by a small scalpel, slowly and carefully, using the finger for exploration. The space between the rami of the ischia was so small that the operation, simple as it may seem to have been, was indeed very tedious. I kept pretty close to the anterior surface of the coccyx, and carried my incision about two inches and a half deep near the coccyx and about one inch at the scrotum. The operation was almost bloodless; no vessel had to be tied. The child was perfectly quiet and unconcerned, it having made an outcry only when the first incision was made. No bulging was detected by the exploring needle, and the operation was abandoned.



PROTRUSION OF INTESTINE AFTER COLOTOMY.

On the following day, the third after birth, Professor E. E. Montgomery saw the case in consultation with me. The operation of colotomy was decided upon. Owing to the fact that the descending colon was visible and palpable through the thin abdominal walls, Amussot operation was chosen. A longitudinal incision was made over the gut on a line about one inch below the umbilicus. The edges of the wound were everted and the peritoneum secured by several stitches to the edges of the skin. The gut, which presented itself as soon as the opening was made, was secured to the edge of the wound by several sutures of fine silk, and then slit open. A large quantity of meconium was discharged with a hissing sound of escaping gases. The wound was cleaned by a weak solution of bichlorid of mercury and a pad of borated cotton was applied and lightly bandaged. The abdomen became of normal size; the child fell asleep quickly. It took the breast greedily; vomiting never returned.

The feces, well formed, were discharged through the artificial anus two or three times daily, the parts being kept clean by a boracic-acid wash. The wound healed kindly.

On the fifth day after the operation the proximal and distal ends of the gut began to protrude, and formed a sausage-like body constricted in the middle, which can be seen on the accompanying figure. The feces were dis-

¹ Kidd, *Dublin Journal Medical Science*, 1896, 38. C., p. 121.

charged from the proximal end. Frequent replacing of the gut and gentle plugging with gauze and bandaging were of no avail. On the tenth day after the operation the everted and protruding ends of the gut attained their maximum length, about six inches, the proximal end being the shorter of the two. On the thirteenth day after the operation diarrhea set in, and the case terminated fatally on the nineteenth day after birth.

The autopsy revealed, to our astonishment the existence of a well-formed anus occluded by integument only and terminating at the scrotum, about a fourth of an inch from the incision, running almost alongside of the urethra, but not communicating with it. The internal organs were normal and in situ, but the vermiform appendix was abnormally long.

The points of interest to be deduced from the case are as follows:

(1) That pressure over the abdomen does not in all cases produce bulging in the perineal region, and therefore its absence does not preclude the existence of the rectum in that region; (2) that a sound should be introduced into the bladder, and kept there while operating, in order to facilitate exploration; (3) that the incision should be made from the coccyx clear to the urethra; (4) that Littre's operation should be preferred, which is made nearer to the natural outlet, and thus the protrusion of the distal gut, at least, could be avoided; and (5) that colotomy is absolutely justifiable.

A CASE OF EXOPHTHALMIC GOITER TREATED BY THYROIDIN.

By R. M. WHITEFOOT, M.D.,
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MISS B., aged eighteen, good physique, well developed, good family history, was brought early in August, 1895, to me for treatment. She presented all the well-marked symptoms of goiter, enlargement of the thyroid gland, protrusion of the eye, increased action of the heart, and general atrophy, with profuse menstruation and disturbance of the nervous system. I concluded to try the juice of the thyroid gland, or rather the active principle, in half-grain doses, three times a day, commencing August 14th. The patient seemed to feel the effects of the treatment very quickly; in two weeks there was a marked decrease in the size of the tumor, the eye was less prominent, and the heart action improved, though she became emaciated, low-spirited, and mentally very erratic. From being unusually light-hearted, cheerful, and amiable, she became morose and fretful. Her mother and sisters became alarmed, fearing her mind might become permanently affected; however, the improvement in the diseased gland was so great, and continued improvement so evident, that I persuaded her mother and herself to continue, and at the end of a month the tumor was reduced at least one-half in size, and the eyes were almost natural. The heart did not respond so readily, but I attributed that to some extent to the nervous tension and mental emotion. As she lost her appetite and suffered from nausea, owing, I think, to imagination and dread of being obliged, at regu-

lar intervals, of having to take a dose of medicine, I was obliged to suspend the treatment three times, and to reduce the doses to twice a day several times for a day or two, but on the whole the patient was under the effects of the medicine for about sixty days, or till the early part of October, when all signs of the disease had disappeared. Her heart's action became normal, the eyes had assumed a natural appearance, and though her mental condition was not satisfactory, I trusted to time and surroundings to correct that. I am happy to say that my hope has been realized. She gradually returned to a normal condition, and is, at this date, perfectly well, cheerful, bright, plump, and her menstrual functions are regular. Her family history would indicate neurotic origin, her parents both being extremely nervous. Her mother, though of good physique, is hysterical and very excitable, and the father, while of more than ordinary intelligence and with a good physique, is of a morbid, melancholy temperament, and very depressed at times. There are five sisters, no brothers. They are all stout, healthy girls, but of extremely nervous type.

MEDICAL PROGRESS.

Alcoholism in Europe and its Relation to Insanity.—

In a paper recently published (*Thèse de la Faculté de Paris*, No. 219) DARIN states that alcoholism is increasing in Italy and Belgium, and especially in France, while it is decreasing in Norway, Switzerland, and Germany. Corresponding to this increase, the number of lunatics in France has also increased. The gain has been chiefly in the two types of insanity known as alcoholic mania and general paralysis. This relation between alcoholism and insanity is also shown by the statistics of different portions of the country, for in those districts where alcoholism is most marked insanity is most common.

The hereditary effects of alcohol are not less striking, for, according to Legrain, among 814 children of alcoholic parents were 322 degenerates and 174 who had not sufficient vitality to live. Among the survivors are fourteen per cent. of hysterics and seventeen per cent. of epileptics.

General paresis has increased in Paris in proportion to a greater frequency of alcoholism.

Surgical Treatment of Tuberculous Testicle.—TILLAUX

gives (*Bull. Méd.*, 1896, p. 533) his conclusions from a wide surgical experience as follows: (1) In suppurative cases with fistulae, in which epididymis and testicle are almost destroyed, try to prevent the spread of the disease without operation by deep cauterization, drainage, iodoform gauze, etc. Castration may be inevitable. (2) In non-suppurative cases in the adult the treatment should be constitutional and expectant. Recovery often follows. (3) In non-suppurative cases occurring before the twenty-fifth year the affected part is to be removed, but the resection should be confined to the diseased tissue, *e.g.*, the epididymis alone.

Syphilis Contracted from a Razor.—CATRIN in *La Presse Méd.*, June 20, 1896, reports the case of a young

man, aged twenty-seven, who contracted syphilis in September, 1894. The initial lesion was followed by a secondary variola and mucous patches. Despite treatment, the improvement was slow.

In July, 1895, the father of this young man, while using his son's razor, cut himself in the chin. This slight wound became an ulcer with indurated border, accompanied by a painful submaxillary adenitis. Well-marked secondary symptoms developed. He was given large doses of the protoiodid, which developed an obstinate stomatitis. In March, 1896, there was a double iritis, which yielded to mixed treatment.

The author insists that this case teaches physicians not to regard too lightly the possibility of contagion in the second stage of syphilis.

Malignant Growth in the Lung. Diagnosed by the Sputum.—In *Virchow's Archiv*, vol. 142, p. 86, is a description of a case of primary carcinoma of the lung, in which the diagnosis was made several weeks before death by means of a microscopical examination of the sputum. The patient, a woman, aged fifty-four, who had suffered for many years with chronic bronchitis, began to expectorate blood in small quantities. As there was a tubercular family history, her attending physician made the diagnosis of phthisis. There was evidence of consolidation in the right lung from the fourth dorsal vertebra downward. There was no fever. The fresh sputum contained blood, fat drops, and granular cells; but its striking characteristic was the presence of large numbers of large, round cells, arranged in bands with one or more nuclei and from one to four nucleoli. On this ground the diagnosis of pulmonary carcinoma was made—a diagnosis which was proven to be correct by the autopsy, two months later. The cells in the sputum, according to the writer, BETSCHARDT, occur in smaller masses in carcinoma than they do in sarcoma of the lung, because of the denser stroma in the former variety of malignant growth.

Mechanical Treatment of Chronic Constipation.—SCHREIBER (*Wiener med. Presse*, 1895, Nos. 21-22), divides the forms of chronic constipation into four: (1) That which characterizes young individuals who are otherwise strong and hearty; in these cases a hereditary diathesis or a sedentary life may be the etiological factor. (2) The constipation which attends the various disorders of the digestive apparatus. (3) The constipation of the neurasthenic and anemic persons and such as have deteriorated in bodily tone. (4) The constipation of the obese. In all these types the most reliable treatment is the mechanical one, which consists in massage and suitable gymnastics. In the second form the regulation of the diet should assist the mechanical treatment. In the third form, a change of surroundings, recreation, and hydrotherapy may give good results in connection with the mechanical method. In chronic constipation purgatives and clysters do more harm than good.

An Aseptic Operation for Gangrenous Strangulated Hernia.—In the *Centralblatt für Chirurgie*, No. 33, 1896, BOGDANIK describes a method of treatment of strangulated

hernia by which he believes the danger of infection is reduced to a minimum. Peritonitis arising after operation for a gangrenous strangulated hernia is due, according to the author to infection at the time of operation. To avoid this he hit upon the plan of removing with scissors and knife all the gangrenous tissue of the sac and its vicinity and disinfecting the wound with carbolic acid solution. The gangrenous intestine is then washed with carbolic solution and dried with sterile gauze, clamped and wrapped in gauze. The ring is divided sufficiently to permit the drawing forward of several inches of normal gut and resection and circular enterostomy are performed. Another washing and sponging takes place, and the loop of intestine is replaced in the abdominal cavity.

The Best Way to Open the Bladder Suprapubically.—DANDOLO (*Centralblatt f. Chirurgie*, No. 33, 1896) performs suprapubic cystotomy as follows: After the properly distended bladder is exposed it is seized and divided longitudinally through the muscular layers only. Then two silk stitches are passed through each edge of the muscular wall, and the mucous membrane is divided between them. By this method any blood-vessel which needs tying is easily exposed, the division of the mucous membrane is performed under the eye and not blindly, and the mucous membrane is not necessarily included in the suture.

THERAPEUTIC NOTES.

The Local Treatment of Ocular Diphtheria.—HERTEL describes the plan pursued in the treatment of ocular diphtheria at the Ophthalmic Clinic of the University of Jena. General and local measures are employed, in addition to injections of the antitoxin. The lids are frequently everted, and the false membrane gently touched with swabs of cotton wet with a 1-500 solution of mercuric chlorid. Into the conjunctival cul-de-sac is introduced a small quantity of an ointment containing a sixth of a grain of mercuric chlorid to the ounce of vaselin. Over the closed eyelids are placed compresses saturated with a solution of mercuric chlorid 1-1000, or of boric acid fifteen grains to the ounce. The use of cold compresses and astringent antiseptics is contraindicated. Corneal ulcerations are touched with a solution of mercuric chlorid 1-1000. Secondary eczemas are treated with solutions of silver nitrate, fifteen grains to the ounce.—*Semaine Médicale*, 1896, No. 30.

The Treatment of Gonorrhoea With Formaldehyde.—ORLOFF (*Wratsch*, 714, 1895; *Centralbl. f. d. Krankh. d. Harn-u. Sexual-Organen*, B. vii, H. 5, S. 287) details the results secured in the treatment of ten cases with formaldehyde. Following injections of a five per cent., or a weaker solution, the purulent secretion soon became serous and gonococci disappeared. Unpleasant effects were not observed. As formaldehyde is volatile, it is well always to prepare a fresh solution. Stronger solutions than five per cent. are not to be recommended.

THE MEDICAL NEWS.

A WEEKLY JOURNAL
OF MEDICAL SCIENCE.

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Address the Editor: J. RIDDLE GOFFE, M.D.,
No. 111 FIFTH AVENUE (corner of 18th St.), NEW YORK.

Subscription Price, including postage in U. S. and Canada.

PER ANNUM IN ADVANCE	\$4.00
SINGLE COPIES10
WITH THE AMERICAN JOURNAL OF THE MEDICAL SCIENCES, PER ANNUM	7.50

Subscriptions may begin at any date. The safest mode of remittance is by bank check or postal money order, drawn to the order of the undersigned. When neither is accessible, remittances may be made, at the risk of the publishers, by forwarding in registered letters.

LEA BROTHERS & CO.,
No. 111 FIFTH AVENUE (corner of 18th St.), NEW YORK,
AND NOS. 706, 708 & 710 SANSON ST., PHILADELPHIA.

SATURDAY, OCTOBER 3, 1896.

BROOKLYN'S DANGER AND THE INADEQUACY OF HER CHARITY HOSPITAL.

THE condition of Brooklyn's water supply has occasioned no little concern among her inhabitants during the last few weeks. It required an unreasonable length of time to arouse the proper authorities to a realizing sense of the situation. The wonder is that the people were willing to use such a discolored, foul-smelling water, without prompter protest. The only explanation can be found in the fact that Brooklyn has long prided herself upon the excellence of her water supply. Backed by the sweeping assertions of her chemists, announced years ago, that Long Island afforded an unfailing supply of the purest and best water in the world, she has been innocently resting upon this assurance, and denouncing as an ignoramus anyone who dared intimate that Brooklyn water was not the purest. In the meantime, Long Island has been rapidly peopled by a surprisingly large population, which has naturally congregated in the greatest numbers along her water courses, and now that Brooklyn water is foul and malodorous, the citizens are awakening to the condition that confronts them. With the many sources

of contamination that surround the sources of her water supply, from the drainage attendant upon this increasing population, it is a matter for thankfulness that germs, productive of fatal epidemic, have not already found their way in the water channels.

As recorded in the NEWS of last week, the careful analysis of many specimens of the water taken from the various sources of supply, fails to discover any cause of disease therein, the expert who examined them announcing that there is no danger in the use of the water "at present." But he did find a condition to exist, which undoubtedly affords a most fertile nidus for the development of typhoid and other noxious germs.

Until this can be eradicated, the dangers and the horrors of a typhoid-fever epidemic constantly threaten with the imminence of the sword of Damocles. How promptly and how thoroughly the cleansing of the waters shall be accomplished is a question of the future. For the present, the urgent question that suggests itself is, how well is the charity hospital of Brooklyn equipped to meet an epidemic should it arise?

A personal investigation, on the part of the NEWS, discloses the fact, that not only is the city utterly unable to cope with an epidemic, but that her present accommodations for the sick poor already existing within her limits and demanding care, are shamefully inadequate. We have read, in the years happily long since past, of the overcrowded condition of the French hospitals, wherein the revolting spectacle was presented of four patients, afflicted with different diseases, crowded crosswise into two single beds placed side by side, whole wards being filled in this way. To our utter amazement, we find Flatbush Hospital in Brooklyn, in quite a similar condition.

Flatbush Hospital, the only public hospital in the city, was erected forty or fifty years ago, with accommodations for four hundred patients. But the building that filled the requirements of fifty or even twenty years ago, has been rendered utterly inadequate by the great increase in the city's population. The result is that a building intended to accommodate four hundred, is compelled to give shelter to seven hundred. That is the number actually crowded into the existing

space. No doubt the good people of Brooklyn will be horrified to learn that if they should enter the portals of the Hospital, they would find from three hundred to three hundred and fifty of their sick poor bestowed on mattresses laid on the floor. To add to the discomfort occasioned by this disgraceful condition, there is not a trained nurse in the institution, and the efficiency of such nurses as there are can be imagined, when we learn that they are obliged to sleep in the wards with the patients. Necessarily, the sanitary and hygienic arrangements are insufficient to meet this extraordinary demand. The medical staff, under efficient leadership, are struggling manfully against overwhelming odds, to render the best service possible under the circumstances.

That such a wretched condition should exist, at this stage of enlightenment in regard to hospital accommodations and management, is a blot upon the reputation of any community.

RECENT PROGRESS IN NEUROLOGY.

CEREBRAL HISTOLOGY AND ANATOMICO-PHYSIOLOGY.

NEUROLOGICAL literature for the past few years has reflected very little which possessed either novelty or special interest in the domain of gross anatomy or histology, but in the more delicate and still somewhat obscure field of minute histology and anatomico-physiological research much work has been done, with a resultant degree of enlightenment which is prophetic of a rich harvest in the near future. The factor chiefly responsible for our advancement in this direction has been the various improvements devised in methods of research, the most notable of which are associated with the names of Golgi, Luciani, Marchi, and Ramon y Cajal. Other workers in this field, whose contributions have added notably to the value and scope of our knowledge of the subject are Andriezen, Risien Russell, Mellus, Van Gehuchten, Turner, Schaeffer, Bevan Lewis, Biedl, and Chaslin.

The line of investigation which has been most positively fruitful in results has been that of experimentally induced pathology. Beginning with the functionally highest structures, the cells of the cortex, Andriezen has shown that the apical

processes of the great pyramidal cells of this region receive the terminal processes of the fillet radiations, a fact which leads to the conclusion that these are the sensory cells of the cortex. If accepted, this conclusion points to the correlated acceptance of a practically identical cortical localization of motor and sensory function or representation. Further support of this teaching is to be found in the results obtained through experimental studies by Flood and Schaeffer (*British Med. Journal*, July 28, 1894). With very few exceptions, this view is generally accepted among neurologists to-day. In connection with this subject of cerebral representation of common sensation, Spitzka (*Lancet*, January 19, 1895) publishes advance notes of a case of direct interest and importance, involving a focal lesion of the right stratum intermedium, the patient presenting during life more or less complete right hemianesthesia, with loss of mechanical coördination, but preservation of equilibrium. Further study, not yet complete in this case, is expected to demonstrate facts of importance in connection with the pathway of sensory fibers in the cerebrum. Turner's (*Brain*, 70, 71, 1895) experiments, several in number, also bear upon this subject of the pathway of fibers conducting sensory impressions. He destroyed the tubercle of Rolando in the medulla of the monkey, and noted as a result (1) defect or abolition of all forms of sensation in the skin, mucous membrane, and cornea supplied by the fifth nerve, with contraction of the pupil of the same side, but without trophic change in the eye. The loss of sensibility was in relation to destruction of the ascending trigeminal root forming the superficial white stratum of the tubercle. The effect on sensation in the body was (2) loss or defect of the sense of touch and of localization on the side of the lesion, but retained pain-sense, while on the side opposite, the impairment was of pain-sense only.

Mellus (communication to Royal Society, England), working in the laboratory of Horsley, reports the results of a series of experiments made with the object of determining the pathway of certain motor fibers from the cortex downward. The bonnet-monkey was the subject of experiment, the centers for the hallux, thumb, and face

in the left hemisphere being the areas of the cortex subjected to minute experimental lesions. He found that the coarser degenerate associate fibers from the thumb lesion were distributed to the upper part of the motor area, and the finer fibers to the lower—an observation corroborative of the measurements of Bevan Lewis. In the internal capsule these degenerate fibers were divisible into two systems, one the fine fibers passing into the outer surface of the optic thalamus from the posterior limb of the capsule; the other, coarse fibers, passing through the internal capsule into the crus and ending, apparently, in the *substantia nigra*. The fibers representing degeneration secondary to the lesions of the facial center are situated in the middle third of the crus, mingled with the fibers of the pyramid, and not occupying a separate space mesial to the pyramid. These experimental findings are especially noteworthy, since they, in some degree, are opposed to the teachings of Meynert and others.

The pituitary body, long an enigma as regards its function, has been the subject of especial study by Andriezen (*British Med. Journal*, January 13, 1894) and Sacchi and Vassali (*Centralbl. f. Allgem. Path. Anat.*, May, 1894). They find that the function of this body is essentially trophic, enabling the nerve-tissues to take up and assimilate oxygen from the blood-stream. It also exerts an influence upon metabolism, destroying or rendering innocuous certain waste products. The pathological findings in acromegaly involving disease, usually of hypertrophic type, of this gland are strongly confirmatory of the experimental findings of Andriezen.

The cerebellum has perhaps been the subject of more extended and enthusiastic study than any other special portion of the cerebro-spinal system during the past half decade. Marchi, Luciani, Risien Russell (*British Med. Journal*, July 28, 1894), Turner (*British Med. Journal*, August 21, 1894), Biedl, and Ferrier are among the large number who have made notable contributions to our present knowledge of the subject. Ferrier (*Annual of Univ. Med. Sciences*, 1895, vol. 2; Section, Brain), in his presidential address before the London Neurological Society, reviews critically the published researches in this field of Luciani

and Marchi. He accepts as proven by them the facts: (1) That the cerebellum has no share in psychical manifestations; (2) its removal causes no evident impairment of any of the special senses, nor cutaneous nor muscular sensibility; (3) it has nothing to do with sexual impulse or desire; (4) the influence of the cerebellum is direct and not crossed; (5) the middle lobe is not, as taught by Nothnagel, the essential lobe. Some of these statements, as will be noted, are radical innovations in teaching and belief.

WILLIAM BROADBUSH PRITCHARD, M.D.

ECHOES AND NEWS.

Diphtheria in Iowa.—The county fair has been abandoned, and the public schools have been closed on account of an epidemic of diphtheria in Salem, Iowa.

Cycling for the Insane.—Bicycle riding has been introduced into the Michigan Insane Asylum at Kalamazoo, for its beneficial effects on the patients.

Whooping-cough in an Orphan Asylum.—Whooping-cough is epidemic in the Colored Orphan Asylum, New York, which has upward of two hundred inmates. The institution has been quarantined.

Disease in Cuba.—There has been a notable increase of yellow fever among the Spanish troops in Cuba. There are upward of 2500 patients in the Military Hospital at Havana.

The Cholera in Egypt.—The weekly mortality from cholera throughout Egypt has fallen from two thousand to six hundred. It is expected that in November or December the epidemic will be entirely eradicated.

Irrigation of the Pericardial Sac.—Professor Verdelli of Parma, recently opened the thoracic cavity, exposing the pericardium, which was given an antiseptic washing. The patient, who had been given up as lost, recovered.

Opening of the Samaritan Hospital Annex.—The annex to the Samaritan Hospital in Philadelphia was opened on September 26th. The new building cost \$10,000, and will accommodate twenty-six patients.

Antitoxin for Lockjaw in Brooklyn.—Dr. Ezra Wilson, the bacteriologist of the Brooklyn Health Department, has been preparing tetanus antitoxin. It has been used with apparent success in a case this week.

A Layman as a Public Vaccinator.—The government of South Australia, whose attacks on the medical profession led to the resignation of the staff of the Adelaide Hospital, has appointed a layman as a public vaccinator for the colony.

The Bubonic Plague.—A virulent bubonic plague is prevalent in many parts of the Bombay Presidency, from

which upward of a hundred deaths have already resulted. There are only sporadic cases of the plague now in Hongkong.

Eberth's Bacillus.—Drs. Remlinger and Schneider of the Val-de-Grace Bacteriological Laboratory, have found Eberth's bacillus to be much more common than was generally supposed. It was present in eight out of thirty-six samples of water, and in six out of ten samples of earth.

Displacement of the Heart.—A seventeen-year-old girl died recently at the New York Hospital. The autopsy showed that in childhood the central lobe of her right lung had collapsed and the fatty growth that resulted caused an adhesion of the heart to the wasted tissues on the right side.

The New York State Veterinary College.—The State Veterinary College at Cornell University, was opened September 23d. The State Legislature of 1894 appropriated altogether \$250,000 for the erection of the college buildings, and since then \$30,000 has been appropriated for its annual maintenance.

Good Work Among Mohammedan Women.—A recent issue of the *Med. Wochenschrift* describes the reforms introduced into Bosnia and Herzegovina by two women physicians, Drs. Krayska and Keck. By reason of their sex they have won the confidence of the Mohammedan women and, by their antiseptic obstetrical work, have reduced the mortality of these provinces to a gratifying extent.

Typhoid in Chicago.—Secretary Reilly of the Chicago Health Commission predicts an epidemic of typhoid fever unless citizens are more careful in the use of the water. Thus far in September there have been 64 deaths from typhoid, and there are said to be over 600 cases of the disease in the city. The typhoid fever death-rate shows that there were at least 600 cases in August.

Money to Purify Brooklyn's Water.—The Brooklyn Board of Aldermen at its session, September 21st, adopted the report of the Committee on Water and Drainage, which gives the Commissioner of City Works \$311,000 for the maintenance of the water system, \$150,000 for diverting the dirty water from Hempstead Reservoir, and \$75,000 for the purchase of land to protect the water supply. The purification of Gowanus Canal was also considered.

Sleep Experiments.—Professor Patrick and Dr. J. S. Gilbert of the University of Iowa, in the *Psychological Review*, record experiments made to determine the effects of prolonged loss of sleep. Dr. Gilbert and two of the University teachers were kept awake for four days and three nights. One suffered most on the second night, another on the third, the other experimenter was not affected. All gained in weight. The power to lift, steadily decreased, and memory and power of attention were also lessened. All powers were completely restored after a sleep of eight or ten hours.

A Baltimore Bequest.—The bulk of the estate of the late Enoch Pratt, the Baltimore banker and philanthro-

pist, is left to the trustees of the Sheppard Asylum of that city, with the stipulation that the name of the institution be changed to the Sheppard and Enoch Pratt Hospital. The income of the fund is to be used to complete the present buildings and grounds, and erect an additional building, with a capacity for two hundred persons. When this is done the remaining fund is to be used for the care of indigent insane free of cost. The bequest is made on the contingency that the trustees obtain an act to amend the charter of the institution.

New Edition of "Gray's Anatomy."—A copy of the revised edition of "Gray's Anatomy," recently announced by Lea Brothers & Co., has just been received. Much expectation was aroused by the announcement, and the appearance of the volume meets it most fully. The pages look familiar, as we turn them over, but many of the subjects have been entirely rewritten and some new matter added. The addition of 135 new and handsome engravings enriches the volume beyond what seemed possible. By the addition of this artistic work "Gray's Anatomy" easily holds its place as "the foremost of all medical text-books." A fuller review will appear in the columns of the NEWS very shortly.

Bacteria and Aerated Water.—Professor Frankland, in *Nature*, shows the fallaciousness of the prevalent idea that by drinking aerated water safety from infectious diseases is insured. In experiments by Slater, the number of bacteria varied from 299 per cubic centimeter with 15 grams of carbon dioxide per liter, to 2000 with 6 grams per liter. The spores of the anthrax bacillus have been found to survive 154 days in aerated water, but the cholera bacilli cannot live longer than three hours. The typhoid bacillus requires a period of two weeks to insure its destruction. The author recommends storage for a certain period, as time is thereby given for the destruction of the pathogenic bacilli by the innocuous forms.

The Water Supply of the League Island Navy Yard.—The report of Surgeon Siegfried of the U. S. battleship "Massachusetts," alluded to in our issue of the 19th, is vigorously disputed by the Board of Health of Philadelphia. They deny that the League Island Navy Yard possesses any connection with the city mains, and assert that the drinking-water used there is obtained from a local system, the sources of which are driven wells. It is further stated that the surgeons at League Island have frequently reported that the conditions at that yard are detrimental to the health of officers and men stationed there, and that it is the duty of the U. S. Bureau of Medicine and Surgery to take such measures as will prevent disease at the naval stations.

International Registration of Scientific Discoveries.—Professor Michael Foster of Cambridge University, has proposed an international organization of science to register at frequent intervals the results of contemporary investigation, and so by placing the worker and his output on record to minimize the risk of retracing ground already trodden, and to make clear to the world of science what has already become common property and what still re-

mains the possession of the original author. If this plan can be adopted there will, of course, be fewer cases of disputed priority in regard to private as well as laboratory experimentations and discoveries. Suits for plagiarism, like that of the French dentist against Professor Lombroso—not frequent at the present time, it is true—will become exceedingly rare.

Obituary.—John Eric Erichsen, F.R.S., LL.D., Hon. M.Ch. and Hon.F.R.C.S., died at Folkestone, England, September 23d. He was born July 19, 1818, and educated at the Mansion House, Hammersmith, and at University College, London. At the time of his death Mr. Erichsen was Emeritus Professor of Surgery and consulting surgeon to University Hospital, and to many other medical charities. He had been President of the Royal College of Surgeons of England, of the Royal Medical and Chirurgical Society, and of the Surgical Section of the Great International Medical Congress of 1881. He was Surgeon-Extraordinary to the Queen, and had been President of University College, London, since 1887. Mr. Erichsen was the author of many works and essays on physiology and surgery.

The "New Journalism" Transplanted.—"The Lounger" writes in *The Critic*: "Display headlines give the London *Daily Mail* quite the air of an American newspaper . . . That the sensational aspect imparted by the glaring headlines does not always belie the text, is clearly shown in its cablegrams from America. Under date of August 14th, for instance, its New York correspondent sent this dispatch: 'Still the heat continues, and the odor of the charnel-house reigns over the city. From hundreds of decomposing human bodies, and from the rotting carcasses of horses there exhales a stench that is positively sickening. Added to this horror is an epidemic of rabies. Mad dogs are running about the streets, and already more than a score of children have been bitten. The mortality due to the heat yesterday totals up eighty-five persons.'"

NEW YORK FOUNDLING HOSPITAL—RESOLUTIONS ON THE DEATH OF SISTER IRENE.

THE MEDICAL BOARD desire to pay tribute to the memory of Sister M. Irene FitzGibbon, late Superior of this institution.

Several members of the Board have served for more than twenty years, and have witnessed the growth of this work, its transference to larger buildings, and its full development.

They recognize the fact that the one person who organized, who procured friends and funds, who planned and built the one great Foundling Hospital of America, was Sister M. Irene.

Whatever other forces and agencies were assisting, it has been obvious to all that the central figure, the persuasive tactful genius, the sweet-souled woman who led to this success, was she to whom to-day the Medical Board pay this parting tribute:

WHEREAS, the Medical Board, in the death of Sister

M. Irene, the Sister Superior of the Hospital, have lost the first executive officer and long-trying friend, therefore be it

Resolved that the Board cause to be spread upon the minutes of its records these resolutions of appreciation and sorrow, incorporating the words:

"This Board has lost the best friend any hospital board ever had."

Resolved further, that the sympathy of the Board be extended to the Reverend Mother Superior and the Sisterhood of the Sisters of Charity, also that a copy of these resolutions be forwarded them, and be published in the current medical periodicals.

New York Foundling Hospital, September 15, 1896, special meeting. Signed

J. LEWIS SMITH, M.D.: J. O'DWYER, M.D.

GEORGE F. CAREY, M.D.,

President of the Medical Board.

SOCIETY PROCEEDINGS.

MISSISSIPPI VALLEY MEDICAL ASSOCIATION.

Twenty-second Annual Meeting, held at St. Paul, September 15, 16, 17, and 18, 1896.

The Association convened in the Senate Chamber at the Capitol.

PRESIDENT'S ADDRESS.

HENRY O. WALKER, M.D., of Detroit, delivered the president's address. He reported three cases, in which four operations were done, representing nearly all the operative procedures now done upon the kidney.

Case I was of sacculated kidney with suppuration and nephrolithiasis, and nephrolithotomy, and subsequent nephrectomy.

Case II was of tubercular kidney and nuclein treatment.

In Case III there was a freely movable tumor in the right hypochondriac region. The kidney was placed in its proper position, and the capsule divided for a distance of three inches on its convexity, using care not to wound the cortical substance. The capsule was then separated from the kidney for one inch entirely around the cut, and secured by interrupted catgut sutures. The cut edges were fastened to the fascia and muscle, so that when the suturing was complete, there was a solidity of fixation of the kidney.

TRUMAN W. BROPHY, M.D., of Chicago, read a paper on

A NEW OPERATION FOR CLEFT PALATE.

It has usually not been thought advisable to operate for the closure of cleft palate until the child is from two to five years old. He maintained that when the operation was thus postponed, the changes in the voice had become permanent, and a repair of the cleft at that time would not react favorably in the voice-production. He freshens the edges of the cleft, then by deep suture of the silver wire fixed through a lead plate, conforming to the palate, draws them together.

C. H. HUGHES, M.D., of St. Louis, Mo., read a paper on

THE PSYCHO-NEURAL FACTOR IN CLINICAL MEDICINE.

The physician must consider the whole mechanism of the system when treating any one part. The surgeon must consider the susceptibility, predisposition, powers of resistance, recuperative powers, and natural courage of the patient in determining as to the prognosis or operation. Painful ovaries, neuralgic, congested, or inflamed, are not necessarily to be cut out, but to be cured by neurological treatment. Hope is itself a buoyant medicine, and faith in the physician or surgeon is a therapeutic power that should never be shattered by us.

HUGH T. PATRICK, M.D., of Chicago, read a paper on

TRUNK ANESTHESIA IN LOCOMOTOR ATAXIA.

In nearly all cases of tabes dorsalis there is a band of anesthesia about the trunk at the level of the nipple. It is, early in the disease, very narrow or even incomplete, or may be represented by a zone in which the localization of touches is not normally accurate. The sensory blunting on the leg, so frequent in tabes, is generally an analgesia. The trunk anesthesia is essentially tactile, and the pain-sense may be quite normal. The band of anesthesia does not correspond to the cutaneous distribution of the intercostal nerves, but to the nerve-fibers arising from adjoining segments of the spinal cord. In some cases there are two distinct zones of anesthesia, indicating simultaneous involvement of spinal segments at some distance from each other. The borders are inconstant, ordinarily retract on continued testing, and vary in position with the method of examination. The same band of anesthesia may occur in syphilitic pseudo-tabes, as shown by an illustrative case, as far as known, the only one on record. The patient presented nearly all the symptoms of locomotor ataxia, including a wide band of trunk anesthesia, but a diagnosis of syphilitic disease of the cord was made, and, under an active specific treatment, he made an almost perfect recovery.

DR. HUGHES said that it was not surprising that these peculiar areas of anesthesia should be found in locomotor ataxia, considering that the entire symptom complex of the disease is due to disturbance of the sensory mechanism. He has long taught that organic disease may give expression to a latent hysteria, causing a combination of the two diseases. In locomotor ataxia may be not only anesthesia and analgesia but also hyperesthesia and hyperalgesia.

GUSTAVUS BLECH, M.D., of Detroit, read a paper on the

TREATMENT OF SOME INFLAMMATORY DISEASES OF THE GASTRO-INTESTINAL TRACT.

Treatment of catarrh of the stomach and similar inflammatory conditions, as practised to-day by most medical men, meets with failure because the treatment is directed against the symptoms and not against the cause of the disease. His treatment is directed against the inflammation itself. He prescribes hydrozone, well diluted in water, at least a quarter of an hour before each meal. The oxygen, which then develops, kills the germs, and cleanses the membrane of the wall of the stomach without injuring the animal cells. It is an efficient and powerful, yet

bland and innocent remedy. He explained the cure of a case of gastric ulcer with the above treatment.

DR. DALEY of Pittsburgh, deprecated the very general use of glycozone, hydrozone, and such remedies, unless a very careful and discriminating diagnosis had been made. Most of the cases are due largely to the formation of toxins.

DR. F. F. LAWRENCE suggested that gastritis was sometimes due to gall-stones.

DR. I. A. ABT of Chicago said that diseases of the stomach cannot be grouped together as gastritis. Many of these conditions are due to toxins found in the gastrointestinal tract.

DR. LARRABEE of Louisville, is convinced that the portal circulation is a most important factor in these cases, and one, too, which is often overlooked. Exercise is of paramount importance, in all cases of chronic gastritis. In arresting putrefactive changes in the stomach, glycozone has proven most excellent in his hands, but he does not neglect to stimulate the liver when indicated.

PAUL PAQUIN, M.D., of St. Louis, read a paper entitled

THE TREATMENT OF EXPERIMENTAL TUBERCULOSIS IN ANIMALS BY THE USE OF BLOOD-SERUM.

In guinea-pigs inoculated with tuberculosis and then treated with serum, ten per cent. were saved. Later results show a very much higher percentage than this, from twenty-five to fifty-five per cent, being favorable. In human beings, 226 cases showed about sixty per cent. favorable, with 40 recoveries and 120 improved. Anti-tubercle serum is positively curative in many cases. If it does not succeed, it is because of existing conditions, such as intolerance of serum-injections of any kind (which is very rare), general destruction of physiologic equilibrium beyond repair, incurable lesions or mixed infection.

DR. LONGSTREET TAYLOR of St. Paul: It is not necessary that the serum should produce an antitoxin in the body. It will, in many cases, give most gratifying results, but in others, for some reason, it is just as disappointing. His experience with the Paquin serum had not been entirely satisfactory, but he intended to give it further tests.

DR. H. W. LOEB of St. Louis had presented some reports relative to the treatment of laryngeal tuberculosis with serum. Of the cases reported, at least two are yet living and well. Of two others, he could not say, but at latest reports there was no return.

DR. JOSEPH MUIR of New York, is convinced a change in the home surroundings of many cases will do more toward a cure than a change of climate.

E. M. HOUGHTON, M.D., of Detroit, read a paper on

A DEMONSTRATION OF THE THERAPEUTIC ACTION OF THE ANTITOXINS.

He reviewed the theories of serumtherapy, demonstrating the differences between toxins and antitoxins. It has not as yet been shown just how the antitoxin counteracts or destroys the toxin. He brought six guinea-pigs for demonstration, three of which he injected with the toxin cultures, the other three with the antitoxin and toxin.

The discussion of the paper was postponed until the result of the injection on the animals should be determined.

JOSEPH MUIR, M.D., of New York, read a paper on
REINFECTION IN CONSUMPTION.

Statistics show that a first attack is not always fatal, and death is often found to be due to other causes. Primary infection is not usually due to inherited tendencies, but external conditions play a most important part. Consumption is best treated among the rich, frequently indeed, a permanent cure is effected in this class of cases; so, for evident reasons, those who are poor should be given especial attention. Patients who have been cured must not be allowed to return to their former environment. Redevelopment is inconsistent with clinical experience. Change of air and outdoor exercise and labor hardens and refreshes the tissues, and the respiratory impurities of former environment are no longer present. Reinfection may be prevented by thorough disinfection of the patient and surroundings, and destruction of the sputum. This protects the patient against himself.

DR. H. J. O'BRIEN of St. Paul, is satisfied there are many cases of reinfection. By staying away patients will sometimes escape contagion and reinfection.

DR. J. A. LARRABEE of Louisville, has long believed that if a consumptive could have proper conveniences and care in the beginning, along with high feeding, the disease could be entirely checked or aborted in many cases. The most terrible mistake is made in sending subjects away for treatment. Home is best, no matter where that home is. Improve it all that is possible, but leave the sufferers among friends.

J. B. MURPHY, M.D., of Chicago, read a paper on

INDICATIONS FOR, AND DEMONSTRATIONS OF, REMOVAL OF GASSERIAN GANGLION.

He demonstrated the technic of the operation on a cadaver head. The operation may seem heroic, but heroic measures are necessary in a condition so severe as trigeminal or facial neuralgia. These patients will submit to anything in the hope of relief. Indeed, they have said before the operation, "Doctor, either kill or cure me." He has always suggested some conditional treatment, especially that of castor oil before resorting to so heroic and serious a measure as this operation. This has given temporary relief in several cases.

DR. A. J. OCHSNER, Chicago, had recently given castor oil in cases of facial neuralgia in half-ounce doses, twice daily for ten days or two weeks at a time, and it has thus far proven a most efficient remedy. No case has yet returned to its former severity.

HUGH T. PATRICK, M.D., Chicago, read a paper on
ELECTRO-DIAGNOSIS AND ELECTRO-THERAPEUTICS
SIMPLIFIED.

Electro-diagnosis is limited to the affirmation or denial of a lesion of the lower neuron; that is, of a lesion of the motor cells in the spinal cord, or of the nerve-fiber, the peripheral nerves springing from those cells. A lesion of this neuron causes the action of degeneration, and this may be recognized by a loss or very considerable diminution of faradic contractions, and by the slow wormlike

contraction of the muscles to interruption of the galvanic current. In the electro-therapeutics of organic disease of the nervous system, applications of electricity through the brain may be entirely discarded as useless. Electricity through the spinal cord is little better. In diseases of the peripheral nerves it probably hastens recovery, and that current is to be chosen which better causes muscular contraction. In functional nervous disease electricity is of more practical value than in organic affections, but it is almost impossible to determine what proportion of this good effect is due to mental impression—to suggestion. The galvanic current is chosen for facial and costal neuralgia and sciatica; the faradic for lumbago, hysterical anesthesia, paralysis, and pain; the galvanic for exophthalmic goiter, and sometimes for neurasthenic headache, and backache. For facial spasms, tic, spasmodic torticollis, tremor, and chorea, electricity is useful, aside from the mental effect.

J. FRANK, M.D., of Chicago, read a paper on

A NEW METHOD OF FASTENING THE ROUND LIGAMENT IN ALEXANDER'S OPERATION.

An incision an inch long is made midway between the anterior superior spine of the ilium and the spine of the pubes, a trifle above Poupart's ligament. The transversalis muscle is pushed back and the ligament lifted out with a blunt hook. Draw it out until the uterus is in the correct position. Instead of drawing the ligament through the fascia, as formerly practised, it is replaced in its anatomical position beneath the transversalis muscle. By this method a slough of the ligament is prevented. This operation is the simplest of all yet proposed for the purpose. As a suture-material, kangaroo-tendon has proven most satisfactory in his experience. A pessary should be fitted in before the operation, and worn as long afterward as may be deemed necessary by the surgeon.

J. HOMER COULTER, M.D., of Chicago, read a paper on

TONSILLOTOMY BY CAUTERY DISSECTION.

With a well-heated, small electro the pillars are dissected away from the tonsil to one-half its extent. The gland is then, with suitable forceps, drawn well out and dissected out to about one-half its extent. This portion is then cut off and the surface treated with a strong solution of silver nitrate. In a week or ten days the other portion of the tonsil is removed in the same manner. This operation will give cosmetic as well as practical results, unobtainable by any other process yet suggested.

DR. H. W. LOEB of St. Louis, instead of performing so much dissection, removes as much of the tissue as he can get in an electric snare. This is repeated as often as may be necessary to remove all the glandular substance. He thinks the method causes less soreness and less pain than that of Dr. Coulter, and in many cases, particularly children, the results will be just as satisfactory.

W. J. MAYO, M.D., of Rochester, Minn., read a paper entitled

THE SURGICAL TREATMENT OF PYLORIC OBSTRUCTIONS.

He has found the free exhibition of strychnia for several days previous to the operation of great value in preventing

shock. The stomach should always be thoroughly washed out a few hours before the operation, and nothing eaten afterward. For combating the shock, besides strychnia and dry heat, a rectal enema of a pint of hot coffee should be given. Nourishment by the stomach should not be too long withheld afterward. For twenty-four hours rectal alimentation should be used; in thirty-six hours, some champagne; later, buttermilk and a gradually increasing diet.

DR. A. F. HOUSE, Cleveland, opposed the use of the Murphy button, and did not consider it the ideal method, as his experience has been somewhat unsatisfactory. He believed the less foreign matter one gets in the wound in uniting the bowel to the stomach, the better the result.

DR. A. J. OCHSNER, in some twenty cases, had used irrigation of the stomach with decided satisfaction. In this way the patient will sometimes become well enough nourished to stand an operation when it is desirable.

THOS. H. MANLEY, M.D., of New York, read a paper on

CONDITIONS WHICH MAY SIMULATE ORGANIC OBSTRUCTION OF THE RECTUM.

NORVAL H. PIERCE, M.D., of Chicago, read a paper on

SUBMUCOUS LINEAR CAUTERIZATION; A NEW METHOD FOR REDUCTION OF HYPERTROPHIES OF THE CONCHÆ.

A small incision is made in the hypertrophied membrane; then, with a blunt, flat probe the mucous membrane is carefully separated from the erectile tissue underneath. A sound, the end of which is cup-shaped, and upon which has been fused a few crystals of chromic acid, is inserted in the incision and the track already made by the probe is thus cauterized. There is no hemorrhage and less pain than by any other method. The functional activity of the mucous membrane is not in the least impaired. Patients will submit to this operation more willingly than to the burning of the cautery.

DR. COULTER suggested the possibility of the chromic acid being left within the operative field, in which case an undesirable slough would necessarily follow. The practice of many rhinologists in using a broad, flat electrode, and destroying a large amount of the mucous membrane, and in not going down to the bone, is to be deplored, as irrational, unscientific, and impracticable.

DR. H. W. LOEB, St. Louis, had seen blindness result from cauterization of the inferior turbinates, and wished to know if there was danger in the use of the chromic acid.

DR. STUCKEY is able to get the same results as from cocaine, without danger and with less systemic disturbance, by the use of a harmless solution of acetanilid.

DR. LOVE wished to enter a protest against the indiscriminate and careless use of cocaine in the nose. There are going about the country to-day hundreds of men and women, miserable victims of the medical profession's careless use of cocaine.

HORACE H. GRANT, M.D., of Louisville, selected for the address on surgery

THE RELATION OF DIAGNOSIS TO FUTURE SURGICAL PROGRESS.

We cannot progress much farther in technic or operative skill. Any great amount of paraphernalia suggests a lack of personal resource in the operator. Almost every part and organ of the human body has been removed. The skiagraph has lately come into importance in surgical work, and it may be an excellent adjunct in many instances. Its recent successes are noteworthy. It is yet, however, in its infancy, and doubtless is capable of still more development. May we not soon expect to see the fetus in utero? No one doorway can open to the royal road to success in the practice of surgery. The skillful and intelligent application of prompt relief, added to a careful diagnosis, will give us the most wonderful and satisfactory results. What each one finds to do, let him do it with his might.

JAS. H. DUNN, M.D., of Minneapolis, presented a paper on

APPENDICITIS; TO OPERATE OR NOT TO OPERATE?

If it were possible to foretell which cases were going to be fatal, this question could be much more easily and satisfactorily decided. The percentage of fatality is yet too high. A certain number of cases will recover without surgical interference. Indeed there is so large a number of such that he believed we very often, in our enthusiasm, operated when it would have been much better to have left them alone, so far as the knife was concerned.

DR. J. B. MURPHY said that in 450 cases he did not think there had been an entire absence of pus in a single instance. He was satisfied there are some cases which can be cured by medicine, but can they be differentiated? By medical treatment we have a mortality of ten per cent., and if we have three per cent. by the knife, then we must operate to save the other seven per cent. Conditions will show whether or not an operation is advisable.

GUSTAVE FUTTERER, M.D., of Chicago, read a paper on

PLEURITIC EFFUSIONS AND THEIR TREATMENT.

A bacteriological examination should be made in all cases, both with cover-glasses, with culture-media, and by injections of the effusion in animals. Distinguish between exudate and transudate by using the acetic-acid chemical test, and by the same process eliminate mucin. Many cases of pleurisy are of an uric-acid diathesis. These will yield readily to the treatment by the salicylates. He believes that not more than fifteen per cent. of pleuritic cases are rheumatic. The finding of pneumococci does not aggravate the conditions, and often gives no markedly distinct symptoms. Pleurisy in typhoid is not a mixed infection, but a distinct condition. Tubercle bacilli are often found in the pleuritic effusions. Tuberculosis may be differentiated by the agar culture. Hyperesthesia of different parts is frequently present. He has washed out the cavity in fourteen cases with an antiseptic solution of from one-half to two per cent. of clove oil, with gratifying results in twelve of the cases. The advantages of this method are: Many patients will allow such an operation, who would object to an excision of the rib; no

bulky dressings are constantly interfering with the comfort and convenience of both patient and physician; much shorter time is required.

A. J. OCHSNER, M.D., of Chicago, read a paper on NERVE SUTURES AND OTHER OPERATIONS FOR INJURIES TO THE NERVES OF THE UPPER EXTREMITY.

His conclusions were: (1) Every severed nerve should be sutured even after years. (2) The earlier the operation is performed the better. (3) If neither sensation nor motion is established within a year, the nerve should again be exposed, the cicatricial tissue removed and the end again sutured. (4) The end should be clean-cut, and should contain neither crushed nor cicatricial tissue. (5) Tension must be avoided. (6) The wound must heal without suppuration to secure the best results. (7) Hemorrhage should be perfectly controlled to prevent intervening clot. (8) Carefully prepared catgut is the best suture-material. (9) After suturing the ends, either direct or "a distance," it is well to stitch a fold of fascia over the united nerve-ends. (10) The extremity should be placed at rest. (11) The external incision should be ample.

HENRY P. NEWMAN, M.D., of Chicago, read a paper on

WOMAN AND HER DISEASES, VERSUS GYNECOLOGY.

We are coming to a period of transition in the practice of surgical gynecology; instead of essays on the treatment, there are studies on the cure and prevention. Preventive medicine, hygiene, sanitation, and sociology are now popular themes for medical societies. Philanthropy has taken the cue from medicine, and is attempting to form a citizen rather than reform him. Woman's sphere has lately widened, until now it is as wide as man's. Has she equipped herself for this race intelligently? Look at the average woman in the cities; the average stenographer, saleswoman, the business woman, do they not daily outrange their bodies by compliance with the dictates of fashion in food, dress, and habits? A woman's generative organs should not be doomed because she has needed to visit the gynecologist. A good diagnostician must know as much about women as about disease, as much about environment and social and domestic relations as about pelvic lesions. Gynecologists should lead in the reform of those conditions which are detrimental to the health of woman.

F. F. LAWRENCE, M.D., read a paper on

THE PATHOLOGY AND TREATMENT OF SUPPURATIVE SALPINGITIS.

Seldom will vaginal section be required, and only in carefully selected cases. Hysterectomy is indicated in those cases where abscess of the uterine wall, tuberculous deposits, fibroids, or malignant disease in the fundus are found. As hysterectomy destroys the pelvic floor, it should never be performed except where there is some tangible lesion of the uterus. Abdominal section will be necessary in many cases.

JAMES B. HERRICK, M.D., of Chicago, contributed a paper on

THE IMPORTANCE OF PHYSICAL SIGNS OTHER THAN MURMUR, IN THE DIAGNOSIS OF VALVULAR DISEASE OF THE HEART.

Practically, conclusions are usually based upon the presence or absence of endocardial murmurs. This is wrong, for there may be a valvular disease without a distinct murmur being audible. Every valvular lesion must result in hypertrophy and dilatation of the heart behind the valve diseased. An increase in tension of the pulmonary circulation follows any valvular lesion at the mitral orifice and, later, any aortic disease. This will show in increased force of the pulmonic second tone. Stenosis of the orifices of the left heart means a smaller amount of blood in the general arterial circulation, therefore lessened arterial tension. Failure of the right heart is followed by venous congestion, *e.g.*, venous pulse, hepatic and portal congestion, anasarca, etc. Hypertrophy may be recognized by the heaving, forcible, apex-impulse. Epigastric pulsation may call attention to enlarged right heart. The jugular pulse, the hepatic and capillary pulse, are all of diagnostic value. The visible pulse of aortic regurgitation is almost pathognomonic. Palpation is important. Extra-cardiac causes for murmur, such as might arise in a heart dislocated by pressure or retraction, can usually be excluded by percussion. A weak, aortic sound may be an indication of obstruction. The reduplicated second sound may point to valvular disease. A sharply accentuated first sound at the apex is common in mitral stenosis. The peripheral tones in aortic regurgitation are a valuable confirmation. Error in calling an inorganic murmur organic is readily made unless the secondary sounds are carefully sought for. The intention of the paper was not to undervalue the importance of endocardial murmur, but to insist that it is only by the complexus of signs and symptoms that an accurate diagnosis can be made.

R. H. BABCOCK, M.D., of Chicago, read a paper entitled

A REPORT OF A CASE ILLUSTRATING THE VALUE OF SECONDARY PHYSICAL SIGNS IN THE DIAGNOSIS OF CARDIAC DISEASES.

Murmurs are the least reliable signs of valvular disease. An accurate diagnosis cannot be made unless the secondary signs of valvular disease are recognized. If the heart actions are not sufficiently strong, there may not be any murmur; or a grave defect may not be observed for the same reasons. Secondary symptoms are: a modified pulse-rate, character, and rhythm, leading to a congestion of the veins and internal organs. In some instances there is also systolic venous pulsation of the liver. Such systolic jugular pulsation is diagnostic of insufficiency, even if the murmur is not audible.

I. N. LOVE, M.D., of St. Louis, read a paper entitled

WATER.

Drugs, drugs, drugs seemed to be the chief inspiration in the life-work of too many men. Hydropathy has been a wonderful service to humanity. We can appreciate the necessity of water when we remember that seventy-five per cent. of our body is made up of water. Water is just as important as the solids in life's conditions. The de-

mands for water are affected by the amount of muscular exercise and degree of temperature to which the body is exposed. For an irritated stomach or bilious colic nothing is superior to liberal quantities of hot water. For "a night out" two or three cups of hot water, along with a cup or two of hot coffee, nothing is superior. It soothes the nervous system if you will abstain from food a few hours. Water, taken freely, acts as a purifier of the system, by flushing, and by its solvent action. The majority of people drink too little water. He would highly advise training children to drink more water. It is a most important agent in improving the complexion. Medicine should be given in large quantities of water. In typhoid fever he insists upon free drinking of pure water. No solvent will act better in removing uric acid from the system, and the only pure water is distilled water. Copious draughts of water for its stimulating effect or the reduction of temperature, have been used many years. The hot pack in convulsions of children is often misused. Better begin with a tepid heat and add cold water gradually. Hot water locally in inflammatory conditions is most excellent.

DR. MANLEY of New York, in cystitis, knew of nothing that would take the place of water. He has often thought the surgeon's knife might be laid aside if we knew how to use water. A large number of the cases of appendicitis might be relieved by a thorough washing out of the bowel.

DR. HUGHES of St. Louis, is opposed to limiting the amount of water used at and during the meal-time. Its action is not only eliminative, but stimulating to both kidneys and bowels.

DR. STUCKEY of Louisville, could not see how water would increase or aid in the digestive function in the stomach, but its importance after digestion cannot be overrated.

DR. BABCOCK of Chicago, thought that a sufficient quantity of water might prevent Bright's disease. If the bowels be constipated and the skin dry, increased work is thrown upon the kidney. Professional men, men of sedentary habits, and women, will often escape the severity of Bright's disease by the unlimited use of water.

DR. HENDERSON of St. Paul, wished to ask the author whether or not the taking of large quantities of water will increase the fat formation.

DR. TURCK of Chicago, said the condition of the stomach must be known before the ingestion of large quantities of water was advised. The habit of taking great quantities of water into the stomach, even two hours after a meal, will hinder the process of digestion. On the other hand, if there is an accumulation of material on the walls and other viscera, then the taking of water would not be objectionable.

ISAAC A. ABT, M.D., of Chicago, read a paper on

THE CLINICAL SIGNIFICANCE OF THE CHILD'S FONTANELLE.

In health the fontanelle does not sink below or rise above its bony frame. It has both respiratory and pulsatory movements. With increased intracranial pressure the normal bruit may quite disappear. An early ossifica-

tion interferes with brain development and produces a brachycephalic skull. In rachitis the involution of the fontanelle is delayed. Marked bulging is caused by the collection of fluid within. The abnormal retraction of the fontanelle always indicates a condition of inanition. If chronic, it is a serious condition. A deeply sunken fontanelle is always a danger signal in any case. Involution occurs normally at from fifteen to eighteen months. Protruberance and tension indicate meningitis.

EDUARD BOECKMANN, M.D., of St. Paul, read a paper on

OPERATIVE TREATMENT OF PTERYGIUM.

He suggested the following operation: A crescentic piece is cut from the pterygium, about five lines from its head. This part is curetted thoroughly down to the sclerotic. The head of the pterygium is dissected off. At the convexity of the piece cut out a stitch is inserted, and the opposing edges drawn together. This leaves the curetted portion to granulate and form a cicatrix. The author thinks the results from this method superior to that of any other in his experience.

WM. H. WILDER, M.D., of Chicago, read a paper on
SUBCONJUNCTIVAL INJECTION IN THE TREATMENT
OF CERTAIN DISEASES OF THE EYE.

The method consists in the injection beneath the conjunctiva of minute quantities of bichlorid of mercury or cyanid of mercury in solution. The operation is not especially painful unless there be inflammation present. It has been impossible to get the same good results from the salt injections that can be obtained from the mercury.

W. S. CALDWELL, M.D., of Freeport, Ill., read a paper on

ETHER AND CHLOROFORM.

He gave an extended résumé of the statistics of death from chloroform and ether. He prefers chloroform.

C. B. PARKER, M.D., of Cleveland, O., read a paper on

THE USE OF OXYGEN IN CHLOROFORM NARCOSIS.

Oxygen and chloroform form a mechanical mixture like air. The oxygen must be perfectly pure. The time required to anesthetize is slightly longer than with chloroform, but the advantages far outweigh this minor inconvenience. There is total absence of vomiting, as well as of the extreme pallor and weakened heart beats, with shallow respiration. The duration of the shock from anesthesia is very much shorter. The patient always recovers promptly without any delirium.

W. F. BARCLAY, M.D., of Pittsburg, read a paper on
DISEASES OF THE NOSE AND THROAT IN CHILDREN.

He demonstrated that almost, if not all, of the pathological conditions, in the nose, occurring in later life, have their origin in this condition in childhood. Children should be taught to breathe through the nose rather than the mouth. Parents should be taught that surgery can relieve, very easily, those who are unable to breathe through the nose.

DR. LOVE called attention to the necessity of watching

over the child from earliest infancy and in teaching it to care for its nose. Many infectious diseases, no doubt, have their port of entry through this organ.

DR. COULTER is convinced that there must be some other reason in producing defective septum than the bumps that a baby received in infancy.

J. MERRILL RICKETTS, M.D., of Cincinnati, read a paper entitled

SURGICAL MÉLANGE.

1. Ligation of brachial artery.—Secondary hemorrhage occurred six days after an accident. Five days later another severe hemorrhage occurred. The middle brachial artery was ligated at that time. Six days later a third hemorrhage occurred. Erysipelas followed and recovery was uninterrupted. The superior profunda and its branches were the source of the hemorrhage after the ligation of the brachial. The ligatures should have been applied above the superior profunda.

2. Gunshot wound dividing the facial artery.—Roller compresses were sufficient to control the hemorrhage. Multiple abscesses appeared on the cheek subsequently, one of which left a salivary fistula. This fistula was finally closed by the introduction of a silver wire.

3. Talipes equinus varus of left foot, with external deformity.—Phelp's operation had been made one year previously, with but slight improvement. The astragalus was removed, five weeks later, through the dorsum of the foot. Division of the tendo Achillis was not necessary.

4. Hypertrophied prostate.—On the twenty-fifth day of a severe attack, double orchidectomy was performed under cocaine anesthesia. He has found cocaine will answer every purpose in these cases. This was the third case in which the same operation had been done. All were successful.

5. Sarcoma of the sacrum.—There was present a syphilitic diathesis. It had been previously diagnosed as a fatty tumor. Complete removal was followed by a prompt recovery, leaving a fistula from the rectum into the cavity. This was successfully closed by a later operation.

Papers were also read by FENTON B. TURCK, M.D., of Chicago,

FURTHER REPORT ON THE TREATMENT OF 500 CASES OF GASTRITIS.

CASEY A. WOOD, M.D., Chicago,

SOME RARE FORMS OF KERATITIS.

A. E. STEARNE, M.D., Indianapolis,

THE SIGNIFICANCE AND OCCURRENCE OF CAPILLARY PULSATION IN NERVOUS DISEASES.

G. I. CULLEN, M.D., Cincinnati,

THE NEWER REMEDIES IN OTOTOLOGY, AND THEIR RESULTS.

Dr. Thos. Hunt Stuckey of Louisville, was elected president; Dr. H. W. Loeb of St. Louis, secretary, and Dr. W. N. Wishard, Indianapolis, treasurer.

The next place of meeting was appointed at Louisville, Ky., the third Tuesday of September, 1897.

THE AMERICAN DERMATOLOGICAL ASSOCIATION.

Twentieth Annual Meeting, held at Hot Springs, Va., September 8, 1896.

(Concluded.)

IN continuing his paper on the subject "What Effect do Diet and Alcohol have Upon the Causation and Course of the Eczematous Affections and Psoriasis," Dr. White said he did not regard alcohol as an important factor in the causation of eczema, but there is a direct and indirect influence in keeping up the disease. Diet and alcohol have no influence upon the causation and course of psoriasis in general. In exceptional types, they have a temporary importance. It has been claimed by some that the disease can be cured by vegetable diet, while others assert that a purely animal diet is required. Both opinions have been supported by series of cases.

Definite and positive knowledge of the real nature of eczema and psoriasis, has yet to be determined by unbiased observation. Successful treatment must remain largely a matter of empirical experimentation.

DR. FORDYCE thought that we did not have definite proof of the influence of diet and alcohol upon either eczema or psoriasis. In infancy, the tendency to eczema is due largely to the delicacy of the skin. In the early stage of psoriasis, its development may be influenced by alcohol and, perhaps, also by food. In the decline, it can be influenced by almost any drug or any food.

DR. JACKSON had always thought that alcohol aggravated eczema and psoriasis. The patient should be considered apart from his skin disease. The more simple the diet, the sooner would we effect a cure. He had been unable to observe any great difference in patients treated by exclusive forms of diet. It seemed to him the simplicity of the diet was of prime importance.

DR. DUHRING said there was a vast difference between food as a cause of disease and food as an injurious factor in disease. He questioned whether food could be regarded as a cause of eczema, but that it possessed, in many instances, a direct injurious influence upon the disease he had no doubt. He thought our knowledge of eczema more clearly defined than it had been for twenty years. Where eczema and psoriasis are associated, it is an arbitrary occurrence. Certain foods appeared to aggravate eczema which already exists, more so than psoriasis. He referred to a case of psoriasis which confined the man to bed for two years. He tried first exclusive meat diet, and then exclusive vegetable diet, but without avail. An ocean voyage cured the case.

Alcohol was a less potent factor than food. It does not exert much influence in the causation of these diseases.

DR. DYER said that in careful investigation of infantile eczema, he found the dietary usually at fault, and proper regulation of the latter might cure while indifferent local treatment was employed. Food probably acted as an etiological factor by causing intestinal fermentation.

DR. MORROW agreed with Dr. White that food had little effect in the causation. Psoriasis and eczema are

frequent among people whose diet is almost exclusively vegetable, as in Honolulu. Many children with eczema suffer from malassimilation, the food lacking in the proper elements for nutrition. By correction of diet errors, the eczema is improved. Private patients do much better than dispensary cases, because the dietary can be better regulated.

Alcohol has the same injurious action in eczema as in syphilis. Alcoholics suffer from severer types of these diseases. In hospital practice, psoriasis lesions can be removed by proper local treatment, but if the patient went upon a spree when discharged, the eruption would promptly return. Alcohol surely favors relapses.

DR. ALLEN said that in his hospital experience, psoriasis occurred largely among alcoholics, and the manifestations quickly recurred in an aggravated form if alcohol was indulged in. He thought its influence greater than that of food. The converse of this could be considered true for eczema, excepting certain infantile forms. In his dispensary experience, children allowed a mixed and faulty diet, often including beer, tea, and coffee, were apt to develop eczema, and once developed it was aggravated by such diet.

DR. ROBINSON said the molecular constitution of our protoplasm depended upon the kind of food we took. This has been demonstrated in the laboratory. If psoriasis and eczema are regarded as parasitic diseases, and if we admit that organisms require a special soil for their growth, the question arises whether alcohol tends to furnish such a favorable soil. In indigestion, particularly that of fermentation, certain toxins are formed, and from them a toxic eczema might become established. Sugars he had found especially injurious, particularly in children permitted to eat cheap candies. If the diet is regulated and a mild application, such as one containing boric acid, is made, the eczema quickly disappears.

DR. WHITE had stated that there was no demonstration of a direct connection between gout and rheumatism, and psoriasis and eczema. He thought it would be admitted that gouty subjects were pretty sure to have, sooner or later, an interstitial nephritis. Urate of soda has been found upon the skin in cases of gout. Internal treatment directed to the gout may cure an eczema which otherwise will not respond to remedies. In psoriasis, food did not have much influence because its action could be counteracted by internal medication. He relied upon an alkaline condition of the system, and arsenic for a more or less specific effect. Much less alkaline medication was required if the diet was properly regulated. He had seen recovery on exclusive milk and vichy. Indulgence in spirits would determine a relapse. Perhaps the alcohol only made the ground favorable for microorganisms. He said, in closing, that the president's remarks were based on the supposition that we here had a parasitic disease to deal with, while we have no positive knowledge that such is the case. Eczema occurred most frequently in the first year of life when the food was the simplest and most uniform. As the food became complex the frequency decreased. Personally, he did not employ internal treatment in infantile eczema.

DR. DUHRING supplemented his remarks by saying that food influences the nutrition of the skin in eczema in a notable degree, and hence, must be regarded as an important factor in the history of eczema.

The next paper was by J. T. BOWEN, M.D., of Boston, on

MYCOSIS FUNGOIDES AND SARCOMATOSIS.

The paper described cases which illustrated the difficulty which one sometimes encounters in separating these two types of cutaneous affection. A study of cases reported previously, along with those now described, lends weight to the opinion that there are transitional forms between the two affections, as has been already suggested by Kaposi.

DR. WHITE thought we must regard the fugitive character of these lesions as common to both mycosis and sarcoma; certainly the many hundreds of nodules in multiple sarcoma, which disappear in a few weeks, in some instances, under arsenic, are as fugitive as if they disappeared without treatment. The size of lesion is only a matter of degree.

DR. DUHRING had seen many cases of what Dr. Bowen called "mycosis fungoides," but he objected to the name, preferring *granuloma fungoides*.

DR. FORDYCE said there was nothing very distinctive in the pathological anatomy of mycosis fungoides and certain forms of sarcomatosis. It was well known that there were types of spindle-cell sarcoma, which could be differentiated by the microscope, but mycosis fungoides of the Kaposi type and certain other forms could not be well distinguished, and it was not at all probable that some of these had different origins not yet understood.

In the session devoted to the exhibition of drawings and photographs of rare cases, J. A. FORDYCE, M.D., of New York, showed two water-color sketches of an unusual form of

IODIFORM DERMATITIS

occurring in a man with pulmonary tuberculosis, following the application of the drug to a contused wound of the finger. The eruption consisted of large patches of grouped tubercles, papules, papulo-vesicles, pustules, and elevated erythematous spots involving the hands, forearms, neck, and face. A colored drawing showing almost identical lesions from the internal use of iodid of potassium was also shown.

MULTIPLE PAPILLOMATOUS TUMORS

were illustrated by several colored drawings.

DR. WHITE said that in a series of cases of iodoform poisoning he had failed to observe the appearances shown in Dr. Fordyce's drawing.

DR. DUHRING complimented Dr. Fordyce on the skill shown in his microphotographic work.

DR. MORROW had seen bullous lesions from the topical application of iodoform. Lesions on the face were probably due to local transfer from the point of application, rather than from systemic effect.

DR. ALLEN said he had observed appearances quite similar to those depicted, also from the application of iodoform to a crushed finger. He had seen a number of

severe iodoform eruptions following application of the drug to crushed members, so that he had come to believe there might be a peculiar connection between such injuries and the occurrence of the dermatitis. In some instances he thought lesions at a distance depended upon absorption of the toxic drug.

DR. FORDYCE thought the presence of tuberculosis accounted for the severity of the symptoms. He had twice seen the application of iodoform to a crushed finger produce a bullous eruption on the face, arms, scrotum, and legs.

DR. MORROW presented colored photographs of the PRE-MYCOTIC STAGE OF MYCOSIS FUNGOIDES.

The case had been under observation for two years. The eruption was always of the urticarial type, but had undergone marked changes. As erythematous spots, enlarged by peripheric extension, and disappeared, new ones would take their place. Treatment by the toxins of erysipelas had aggravated the condition.

DR. DUHRING considered the salmon color rather characteristic of granuloma fungoides. DR. WHITE spoke of a case showing brown patches, which had been sent to the hospital with the diagnosis leprosy.

DR. DYER of New Orleans, presented photographs of unusual conditions in the negro, such as leprosy; the marked tendency of scars to develop into keloid; tinea circinata; alopecia areata, the only instance he had ever seen in one of this race; an unusual type of leukemia in a young girl, etc.

A. R. ROBINSON, M.D., of New York, presented the next paper upon

XANTHOMA DIABETICORUM.

The patient whose case was described, and of whose eruption colored photographs were shown, was a woman who had her first attack in 1891. The eruption at this time appeared upon the anterior surfaces of both forearms and upon the elbows, with a few lesions upon the knees. All disappeared excepting those upon the elbows, and remained away for several months.

In the attack now described, about 150 lesions occupy space between the wrist and midway between the elbow and shoulder-joints. They are from pin-point to pin-head size, elevated, light yellow, with faint tinge of red. Pressure develops yellow tinge, but the red returns on its removal. Grouping is well marked in spots. Over the elbow is a patch $1\frac{1}{2}$ inches in diameter composed of about fourteen small groups. No lesions on palms. Upon legs, about fifty lesions on each side, extending from middle of the thigh to below the knee. No lesions on eyelids or other part of face. No history of diabetes in the family. The urine is strongly acid, has a specific gravity of 1023, and contains twenty per cent., by bulk, of albumin. Sugar test is negative, but urine is said, by the chemist, to be of "glycosuric nature."

In the discussion, DR. DUHRING said a case with similar lesions, so small as to render diagnosis difficult, had recently been seen by him. Under antidiabetic treatment the papules disappeared, but returned when ordinary diet was resumed.

DR. MORROW said that sugar was not always present in these cases. He cited Besnier's case, which had been observed for several months without sugar being discovered. In another instance sugar was found only after breakfast.

DR. FORDYCE had seen a similar case in Dr. Elliot's clinic.

DR. ALLEN thought sugar would be found in Dr. Robinson's case in time. He had seen intermittent glycosuria without skin eruptions.

DR. MORROW said it was well known that diabetics frequently develop interstitial nephritis, and if the sugar has previously disappeared it is apt to return at such time.

C. W. ALLEN, M.D., of New York, read upon
SOME GLYCOSURIC DERMATOSES.

If the dermatoses, which have been called by the French *diabétides*, were in the main pathognomonic of the underlying condition which their presence suggests, the term might well take its place along with the syphilides, scrofulides, tuberculides, and leprides. The chief objection which the writer offers to this is that the eruptions occur in the presence of the symptom of glycosuria, which is not to be confounded with the disease diabetes, and hence the term is a misnomer. A number of instances were related in which skin eruptions occurred coincidentally with sugar in the urine, and some which disappeared when the urine became sugar-free. In one case multiple gangrene, extending over limited areas of the skin surface, had been observed. The patient had undergone several such attacks at times when the percentage of sugar was notably high. A peculiar bronzing of the skin had occurred upon the surrounding areas affected, and a marked hairy growth had taken place in a number of these pigmented spots. In one case the lesions had closely simulated those of acne varioliformis of Hebra, but had occurred in other regions than those usually occupied by the latter disease.

While glycosuria is a symptom of a variety of different conditions, originating in different organs of the body, and still far from being understood, it is attended with a series of cutaneous manifestations which are at times almost enough in themselves to warrant a diagnosis of the presence of sugar. We know as yet of but few cutaneous manifestations which are so pathognomonic or peculiar to diabetes as to warrant us in making of them a class by themselves.

DISCUSSION.

DR. WHITE said that a furuncular diathesis was not a necessity, since the skin in these cases furnished a good nidus for the development of furunculosis. The reader had failed to mention the very acute eczema of the genital regions in stout diabetic women. He had often noted an intensely acute form of erythematous eczema or dermatitis, which possessed a very evanescent character. He came to look upon this dermatitis as characteristic of diabetes.

DR. MORROW said these eruptions had been explained on the assumption that they were due to the local contact of saccharine urine and the products of its decomposition affording the development of certain fungi and parasitic

growths. This would not explain eruptive troubles upon the distant parts. The presence of sugar in the blood modifies its power of maintaining the nutrition of the tissues. He found many of the eruptions could be explained in the same way as drug eruptions—by the presence of a foreign substance in the blood.

I. DYER, M.D., of New Orleans, reported an interesting case of

HYPERTROPHIC ROSACEA (PACHYDERMATOSIS) RESEMBLING TUBERCULAR LEPROSY, CURED WITH THYROID EXTRACT.

Many of the symptoms resembled those of leprosy, which is so prevalent in that part of the country in which the case occurred. The patient was a farmer, sixty years of age, giving scant family history, and complaining but little of the itching and annoyance of the eruption, but seeking relief more for the cosmetic effect. There was marked infiltration of the face and back of the hands, to which regions eruption was limited. The patient's general health was, and had always been, good. A photograph was presented, showing the great thickening of the skin in rugæ, running for the most part in parallel lines, a pencil's breadth apart, crossing each other at points one-half inch distant, more or less, from each other. There was much itching, and extensive scaling. The color was red rather than brownish or bronzed, as one would expect to find in tubercular leprosy. Then, too, there were no tubercles nor telangiectes. Various forms of treatment were tried without beneficial results. The diagnosis was suggested by a picture in the "Atlas of the St. Louis Hospital Museum of Paris," which appeared to be a counterpart of the writer's case. Thyroid extract tablets, five grains each, were given three times a day, and continued over several months, with some intervals. Under this treatment the skin became soft and normal to the touch, and in general appearance. The photographs presented showed a marked change in the patient's appearance after treatment.

No longer could confusion with tubercular leprosy be made. Besides the other points, which would exclude leprosy, were the limitation to the exposed regions, the absence of trophic changes, and the total absence of true tubercles.

In discussing Dr. Dyer's paper, Dr. White said that the appearance presented in the photographs and from the description did not recall to his mind any case of ordinary pachydermia which he had seen. He asked if there were other evidences of myxedema present than those suggested by the photograph.

DR. DUHRING could not accept the diagnosis of hypertrophic rosacea, while the term pachydermatosis seemed to him quite appropriate. Dr. Jackson favored the diagnosis of mild myxedema, in which view Dr. Fordyce concurred. In closing, Dr. Dyer said that there had been no evidence to warrant a diagnosis of myxedema. He had changed his designation to hypertrophic rosacea, after seeing the plate so entitled in the "Atlas of the St. Louis Museum Collection of Wax Models." There had been no evidences of cellular edema.

The hypertrophy had developed gradually and had lasted for nineteen years. There was no enlargement of the thyroid gland.

THE RELATION OF DERMATITIS HERPETIFORMIS TO ERYTHEMA MULTIFORME AND PEMPHIGUS,

was the paper next presented by DR. DUHRING, who concluded (1) that dermatitis herpetiformis was, in most instances, a disease with well-defined, tolerably constant clinical features; (2) that, in most instances, it was more closely allied in nature to erythema multiforme than to any other disease; (3) that the bullous variety of dermatitis herpetiformis possessed features that resembled those of pemphigus vulgaris, from which latter disease, however, it differed in the peculiar inflammatory and herpetiform character of the cutaneous lesions, as well as in the tendency to polymorphism, the irregular evolution of the lesions, and in its course.

DR. FORDYCE thought all dermatologists in this country recognized the existence of dermatitis herpetiformis. In a case recently seen with multiform lesions, bullæ, and pigmentation, a chronic nephritis was present, which he thought was the cause, by keeping certain chemical products in the system, of the irritation of the skin.

DR. ROBINSON thought it an unfortunate use of the term dermatitis. When multiformis was added to it, it had no meaning at all. He therefore preferred "herpetiformis." The neurotic nature had not been accepted. He regarded it as a toxic manifestation through the vascular system, or perhaps the nervous system.

Dr. J. C. White of Boston was chosen president, Dr. L. A. Duhring of Philadelphia, vice-president, and Dr. J. T. Bowen of Boston, secretary and treasurer.

REVIEWS.

WHITAKER'S ANATOMICAL MODEL: A Pictorial Representation of the Human Form and its Organs, with descriptive text. By DR. SCHMIDT. Thomas Whitaker, publisher, Bible House, New York.

THIS is an attempt to give the reader a pictorial representation of the human body and its organs by superimposed pictures, giving the appearance of the human body as it appears in sections made at various levels. The book is one of a series edited by William S. Furneaux.

ANATOMY OF THE HUMAN HEAD AND NECK is another volume in the same series. They are valuable for school-children who are studying physiology, and may be of service also in training-schools for nurses.

REFERENCE AND TEXT-BOOK. By C. HENRI LEONARD. Fortieth thousand. Illustrated Medical Journal Co., publishers, Detroit.

THIS is a new and enlarged edition of the *multum in parvo* reference- and dose-book. It is printed on very thin paper, bound in red leather, flexible covers, round corners, adapted for the pocket. Besides giving the doses of over three thousand preparations, it has numerous tables.